Preliminary Environmental Assessment

JINDERA SOLAR FARM

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ABBREVIATIONS AND ACRONYMS

ABS	Australian Bureau of Statistics
AHIMS	Aboriginal Heritage Information Management System
BC Act	*Biodiversity Conservation Act* (NSW)
CCP	Community Consultation Plan
CEMP	Construction Environmental Management Plan
Cwth	Commonwealth
DPE	Department of Planning and Environment (NSW)
EEC	Endangered Ecological Community (listed under NSW BC Act)
EIS	Environmental Impact Statement
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999* (Cwth)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
ha	hectares
Heritage Act	*Heritage Act 1977* (NSW)
ISEPP	*State Environmental Planning Policy (Infrastructure) 2007 (NSW)*
JSF	Jindera Solar Farm (the proponent)
km	kilometres
kV	kilovolt
LEP	Local Environment Plan
LGA	Local Government Area
m	metres
MNES	Matters of National Environmental Significance under the EPBC Act (*c.f.*)
MW	megawatts
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NSW	New South Wales
NV Act	*Native Vegetation Act 2003* (NSW)
OEH	Office of Environment and Heritage (NSW)
RET	Renewable Energy Target
RMS	Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements (issued by DPE)
SEPP	State Environmental Planning Policy (NSW)
SSD	State Significant Development
TEC	Threatened Ecological Community (listed under Commonwealth EPBC Act)

1 INTRODUCTION

1.1 PROPOSAL OVERVIEW

Jindera Solar Farm Pty Ltd proposes to develop a solar farm at Glenellen, north of Jindera, New South Wales (the proposal). The 130 Megawatt (MW) solar farm would occupy around 519 ha of rural land currently used for agriculture. The proposal infrastructure includes solar arrays, trackers, modules, invertors, a substation, underground cabling, security fencing, battery storage and a cable run to connect the solar farm to TransGrid's Jindera substation.

1.2 THIS REPORT

Scoping is a key stage in the Environmental Impact Assessment process. It identifies the main issues and information requirements for the assessment, considering the values of the site, the nature and extent of potential impacts, planning and regulatory requirements and the results of early consultations. This allows the assessment to efficiently focus on the most important issues.

This Preliminary Environmental Assessment (PEA):

- Describes the proposal and the site.
- Identifies statutory approval requirements.
- Identifies key potential environmental issues associated with the proposal.

The Assessment has been prepared to support a request to the Department of Planning and Environment (DPE) for the Secretary's Environmental Assessment Requirements (SEARs). The SEARs would guide the preparation of an Environmental Impact Statement (EIS) for the proposal under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.2.1 Terms used in this document

Subject Land – All affected lot boundaries.

The Proposal – The entirety of the solar farm proposal, including auxiliary construction infrastructure, access etc.

The Proponent – Jindera Solar Farm Pty Ltd (JSF).

Development Site – Survey footprint.

Development footprint - The area of land which will potentially experience work related to the proposed solar farm and any additional infrastructure required for the operation of the solar farm (e.g. perimeter fence, solar array design, transmission line footprint, site access).

1.3 JINDERA SOLAR FARM PTY LTD

Jindera Solar Farm Pty Ltd (JSF) is based in NSW. It is a partnership involving Hanwha Energy Corporation and Green Switch Australia. Hanwha Energy is a major owner of solar farms in USA and Asia. Green Switch Australia is a developer that specialises in creating utility scale solar projects. Together they have many years' experience in developing, building and operating solar power projects.

2 PROPOSAL AREA DESCRIPTION

2.1 LOCATION

The proposal is located within the NSW South Western Slopes region in the Greater Hume Local Government Area (LGA), approximately 5.5km north of Jindera in the suburb of Glenellen (Figure 2-1). The proposal area is bound by Urana Road, Nation Road, and Ortlipp Road, and intersected by Walla Walla Jindera Road, Sparkes Road, Glenellen Road and Klimbergs Lane. Proposed transmission lines would connect to an existing TransGrid substation located 600 m to the south-east of the proposal.

The proposal is located within the Murray River Catchment, with local land use primarily being agricultural (cropping and grazing).

2.2 THE DEVELOPMENT SITE

The subject land (519 ha) and development footprint (337 ha) comprises Lot 2 DP213465, Lots 70, 90, 133-136, 138-141, 147, 148, and 153-155 DP753342, and Lots 1-3 DP1080215 (Figure 2-2 and Figure 2-3). The proposal is divided into two portions, joined by the proposed transmission line.

The proposal area is agricultural land comprising several large paddocks that are generally flat and largely cleared and cultivated for pastures and grazing (Figure 2-4 and Figure 2-5). Native vegetation remains in the form of scattered paddock trees or small isolated patches of remnant woodland. Two watercourses run through the property, Deadhorse Creek and Kilnacroft Creek. These creeks are generally dry, experiencing water flow only at times of high rainfall. Within the development site, sections of these creek lines are bordered by planted native vegetation. Eight farm dams occur within the proposal area.

The land is classed as follows under the Land and Soil Capability Assessment Scheme (Figure 2-6):

- Class 3: sloping land that is capable of sustaining cultivation on a rotational basis. This land can be readily used for a range of crops including cereals, oilseeds and pulses. Productivity will vary with soil fertility.
- Class 6: steeply sloping lands (20–33% slope) that can erode severely even without cultivation, or land that will be subject to severe wind erosion when cultivated and left exposed. Land generally is suitable only for grazing with limitations and is not suitable for cultivation (OEH 2012).

Class 3 land is considered **High Capability Land**: Land that has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. Class 6 is considered **Low Capability Land**: Land that has very high limitations for high-impact land uses and is restricted to low-impact land uses such as grazing, forestry and nature conservation. Within the development footprint, 245.7 ha (47.4%) of the land is identified as class 3 and 272.9 ha (52.6%) as class 6.

The NSW Government introduced a range of measures designed to deliver greater protection to agricultural land from the impacts of developments. These measures included the safeguarding of 2.8 million ha of **Biophysical Strategic Agricultural Land** (BSAL) across the state. BASAL is land identified with high quality soil and water resources capable of sustaining high levels of productivity, which is critical to sustaining the state's agricultural industry. The development site is not mapped as being BSAL, therefore the proposal would not impact on land critical for agriculture (DPE 2017).

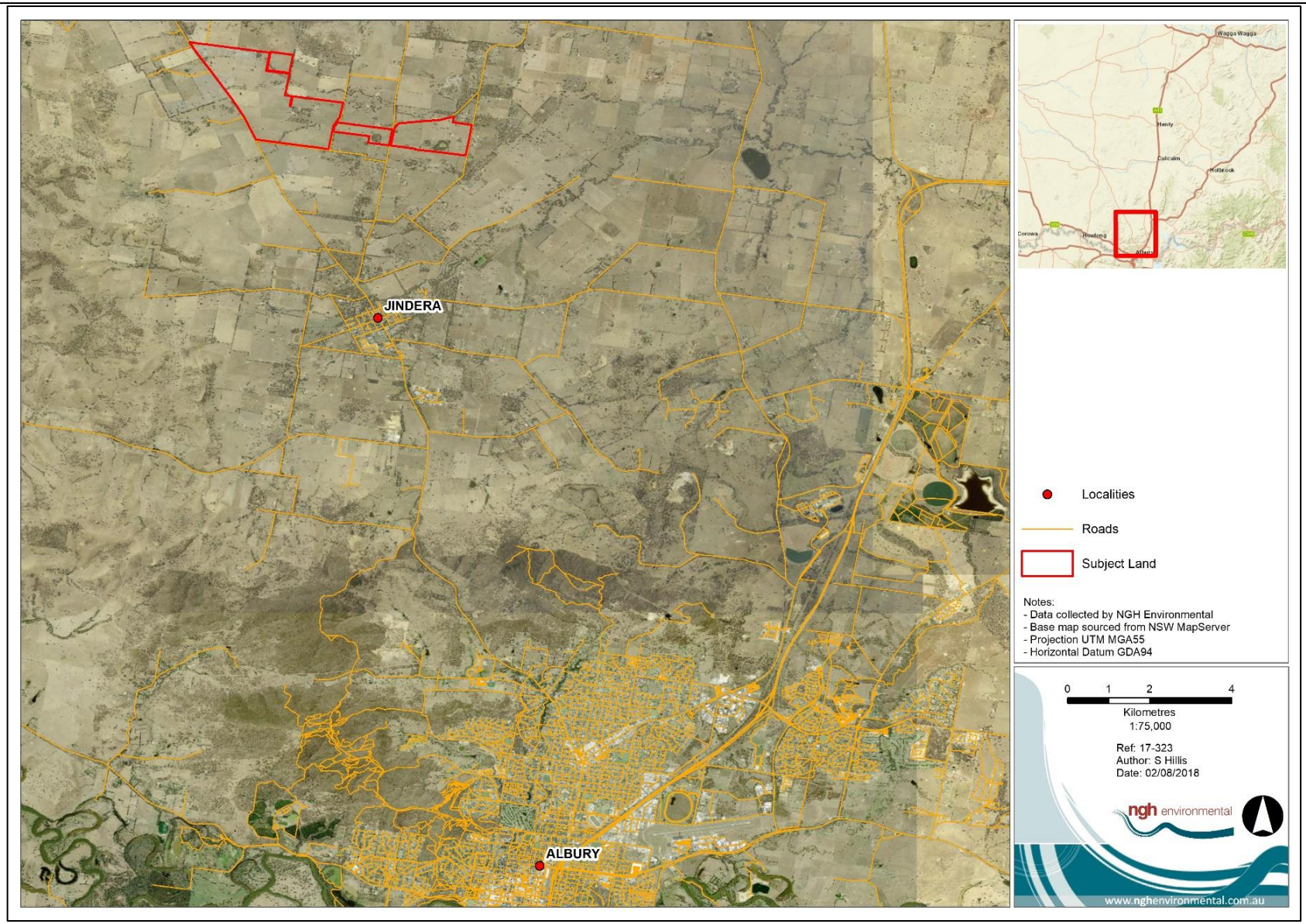

Figure 2-1 Location of the proposal site.

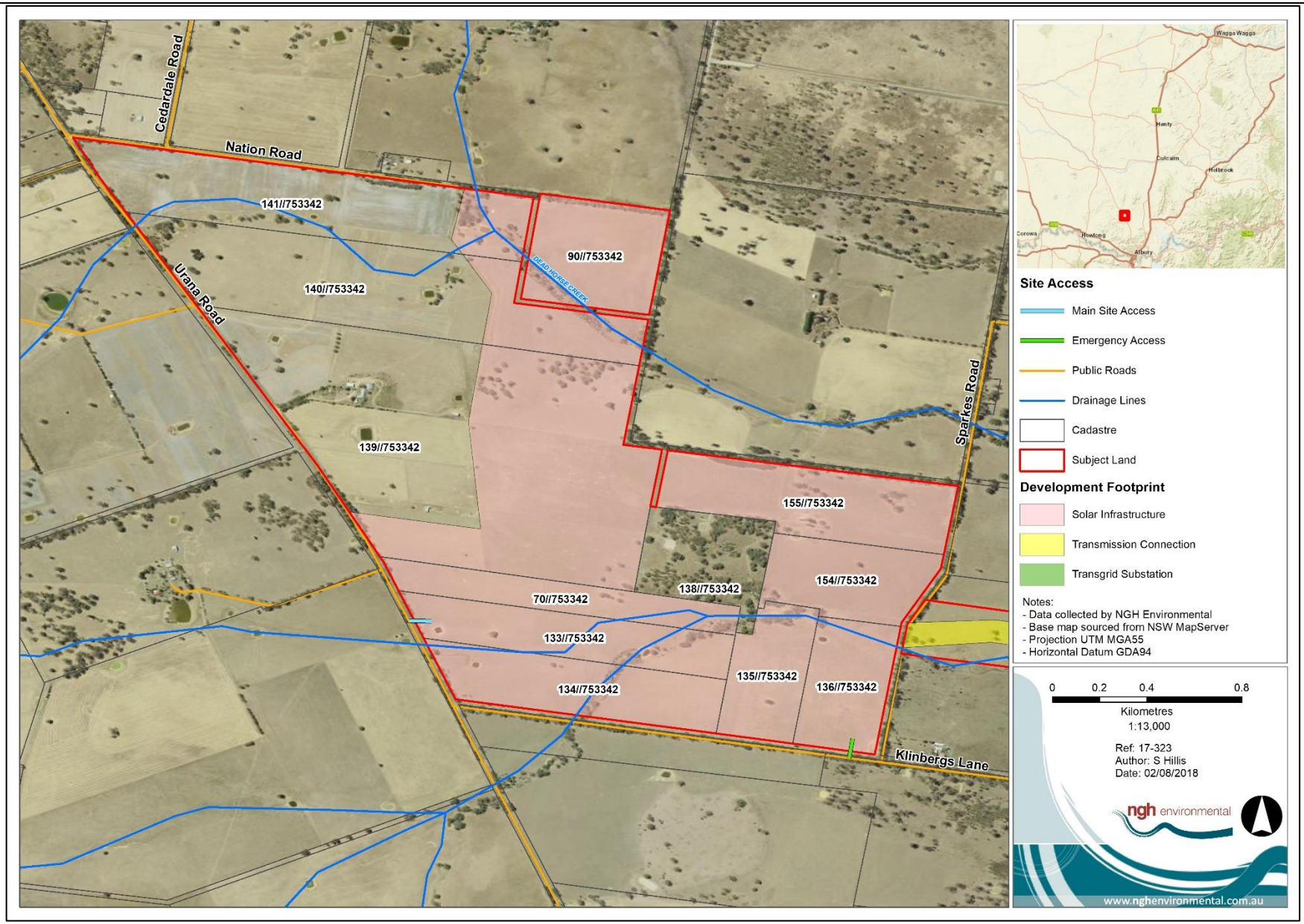

Figure 2-2 Proposed lots for development and layout (1 of 2)

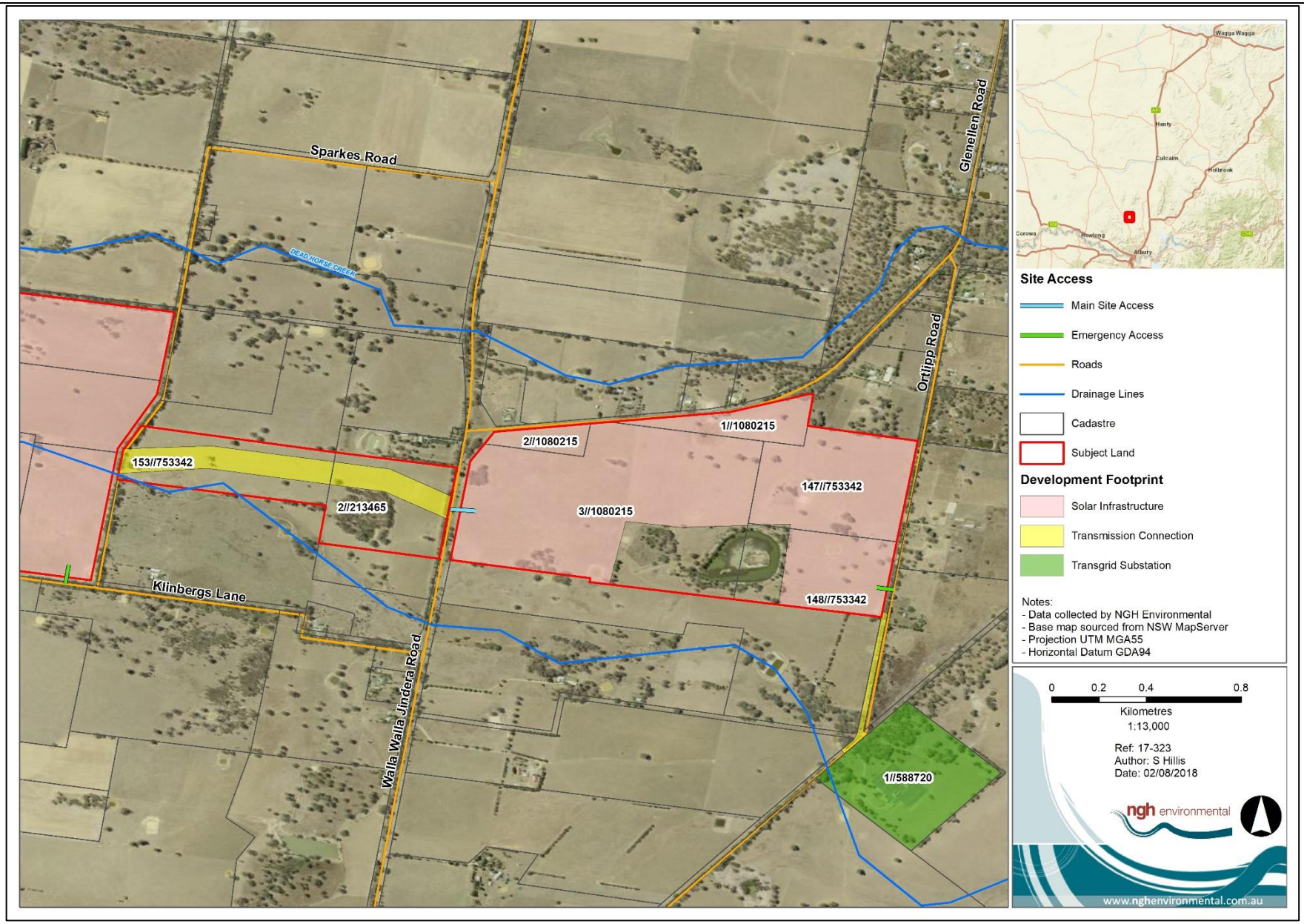

Figure 2-3 Proposed lots for development and layout (2 of 2)

Figure 2-4 Typical landscape within the subject land

Figure 2-5 Example of dams within the subject land

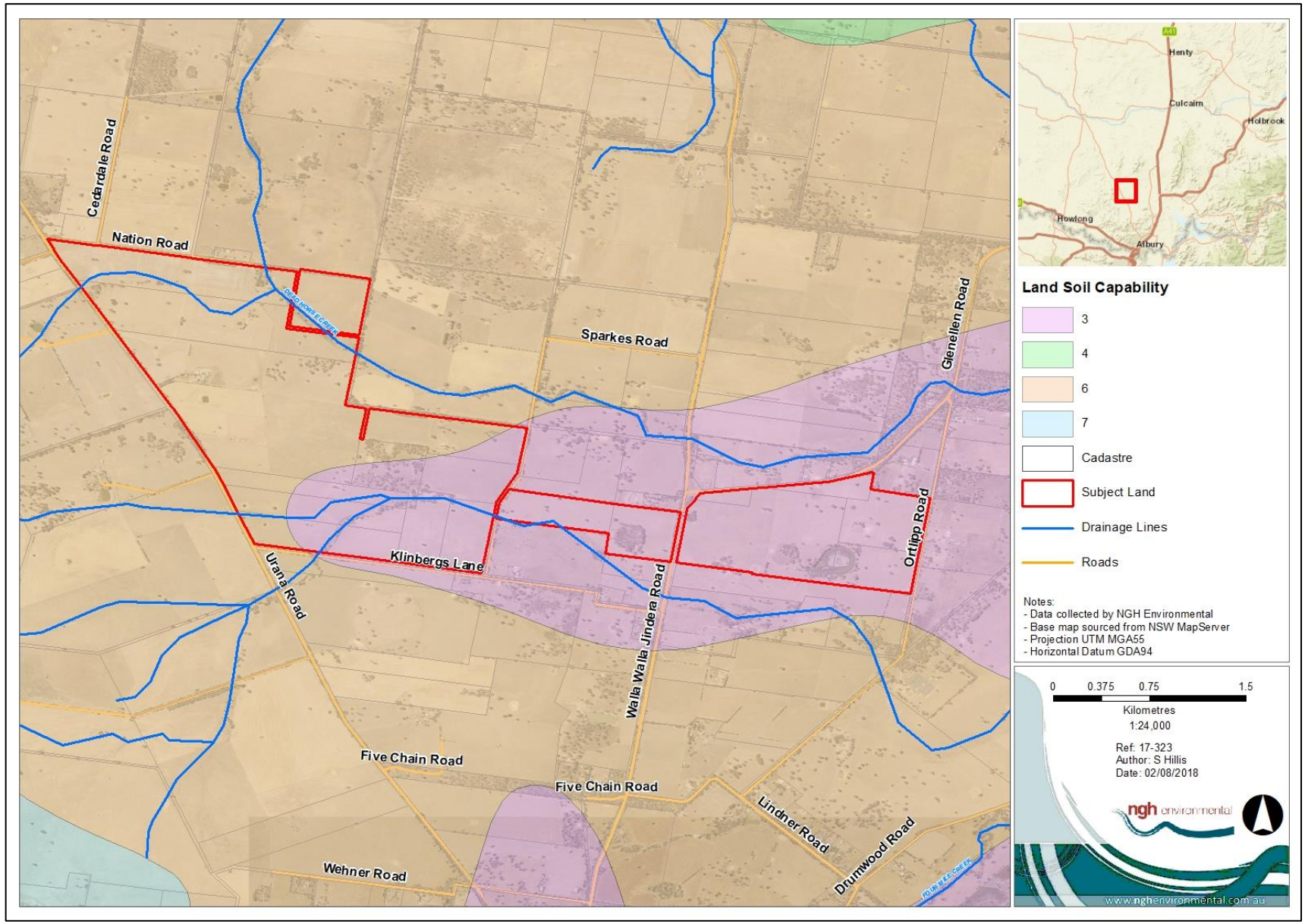

Figure 2-6 Land Soil Capability

2.3 THE LOCALITY

The proposal is located within the Greater Hume Shire LGA, located in southern New South Wales between the major regional centres of Albury and Wagga Wagga. The shire has several small towns including Culcairn, Henty, Holbrook, Jindera and Walla Walla, and the smaller villages of Brocklesby, Burrumbuttock, Gerogery, Gerogery West, Morven, Walbundrie, and Woomargama. The LGA is 5,746 km² with a population of 10,351 as at the 2016 Census (ABS 2018a).

2.3.1 Jindera

The town of Jindera is located approximately 40 km south-west of the major town of Culcairn, with a population of 2,222 as at the 2016 Census (ABS 2018b). Jindera has a number of attractions including the Jindera Pioneer Museum, the Jindera Country Golf Club, Four Mile Creek, Jindera Wetland, Jindera Village Green and a number of recreational reserves.

2.3.2 Population

The median age of persons in Greater Hume LGA is 44; this is higher than the Australian average of 38 (ABS 2016). The 2016 census records state that 3.3% of the population are Aboriginal and Torres Strait Islander people (ABS 2016). A large portion, 86.2% of the community were born in Australia; 1.9% in England, 0.9% in New Zealand, 0.5% in Germany and 0.4% in the Netherlands (ABS 2016).

2.3.3 Climate

The Greater Hume LGA is part of the NSW South Western Slopes Bioregion, Lower Slopes subregion. This bioregion is dominated by a sub-humid climate that generally experiences hot summers and cool wet winters (OEH 2016). The BOM (2018) temperature records available from the nearest climate station at Urana Post Office (station no. 074110) indicate a mean summer maximum of 32.9 °C (January) and a mean winter minimum of 3.2 °C (July) (Figure 2-7). The BOM (2018b) rainfall records from the same station show a mean annual rainfall of 444 mm, and that rainfall is generally greatest over winter and spring, with the average monthly maximum occurring in June (45.2 mm).

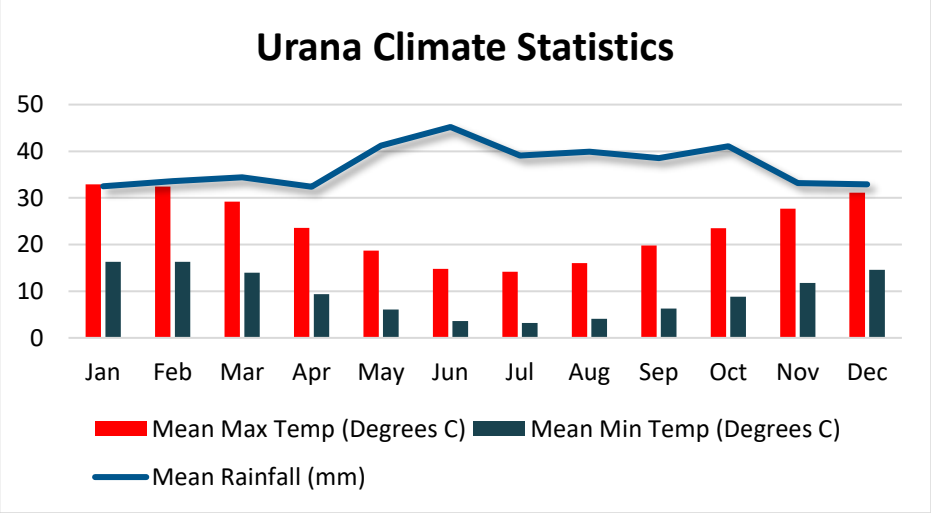

Figure 2-7 Climate Statistics for Urana (BOM 2018).

2.3.4 Geology and Vegetation

The geology and vegetation characteristics for the South Western Slopes-Lower Slopes subregion are as follows (OEH 2016):

Table 2-1 Inland Slopes Subregion Geology and Vegetation

Geology	Characteristic Landforms	Typical Soils	Vegetation
Ordovician to Devonian folded and faulted sedimentary sequences with inter-bedded volcanic rocks and large areas of intrusive granites, and large areas of Tertiary and Quaternary alluvium.	Undulating and hilly ranges and isolated peaks set in wide valleys at the apices of the River in alluvial fans.	Shallow stony soils on steep slopes, texture contrast soils grading from extensive red-brown earths on undulating plains, and extensive grey clays on alluvium.	Dwyer's gum on granite, red ironbark on sedimentary rocks, Hill red gum, white cypress pine and red stringybark in the ranges. Grey box woodlands with yellow box, white cypress pine and belah on lower areas. Poplar box, kurrajong, wilga and red box in the north, limited areas of bull mallee, blue mallee, green mallee and congoo mallee in the central west. Myall, rosewood and yarran on grey clays, yellow box, polar box, and belah on alluvial loams. River red gum on all streams with black box in the west with some lignum and river cooba.

3 THE PROPOSAL

3.1 SITE SELECTION

The proposal site has been selected for the following reasons:

- Excellent solar exposure.
- Excellent access to local and major roads.
- Excellent access to the grid transmission network.
- Likely low level of environmental impact – the site has been largely cleared and heavily disturbed by cultivation and cropping.

The use of the site would be based on an existing lease agreement between the proponent and the landowners for the life of the project.

3.2 PROPOSED WORKS

3.2.1 Proposed infrastructure

The proposal involves the construction of a ground mounted photovoltaic solar array which would have capacity to generate approximately 130 MW (DC) of renewable energy. The solar farm would connect into TransGrid's Jindera substation.

The proposal would consist of the following components:

- Single axis tracker photovoltaic solar panels mounted on steel frames over most of the site.
- Battery storage to store energy on site.
- Electrical conduits and transformers.
- Invertor units.
- On site substation.
- Site office, vehicle parking areas, internal access tracks and perimeter fencing.
- Overhead and underground electrical cable reticulation.
- 33kV internal transmission lines and 132kV transmission line to connect the proposal to the Transgrid substation.

The solar farm arrangement is flexible and adaptable and would be designed to avoid impacts where feasible and minimise and mitigate environmental impacts if avoidance is not possible. The design would consider the results of the Preliminary Environmental Assessment, consultation with relevant stakeholders and the EIS to be prepared. The EIS would detail how these studies have been used to produce the final proposal design.

The proposed infrastructure footprint is shown in Figure 2-2 and Figure 2-3. This includes all land likely to be directly impacted by the construction, operation and decommissioning of the proposal, including auxiliary construction facilities (site compound, laydown, stockpiling etc.) and all considered options. It is important to note that the proposed footprint is indicative only and will be refined as part of the EIS process (considering environmental constraints and engineering studies), with project infrastructure layout to be detailed in the EIS.

3.2.2 Construction, operation and decommissioning

The proposal is expected to operate for around 30 years. The construction phase of the proposal is expected to take 12 to 18 months. After the initial operating period, the solar farm would either be decommissioned, removing all above-ground infrastructure and returning the site to its existing land capability, or upgraded with new PV equipment.

3.2.3 Capital investment

The proposal would have an estimated capital investment in excess of $30m, identifying the proposal as state significant development under Part 4 of the EP&A Act. The actual value of the proposal will be in excess of $100m. A quantity surveyor's report would be prepared during the EIS process as part of the proposal which would confirm the capital investment cost.

3.2.4 Subdivision

Part of the subject land will be leased from the landowner. When land is leased from a landowner and the lease affects part of a lot or lots in a current plan, a subdivision under *s*.7A *Conveyancing Act 1919* (formerly s.327AA *Local Government Act 1919* now repealed) is required when the total of the original term of the lease, together with any option for renewal, is more than five years. When the lease affects the whole lot in a current plan, the body of the lease identifies the area by lot and DP number with a subdivision not required.

As part of lots will be leased, subdivision for the purpose of the internal substation and solar infrastructure will be required and an easement created for the transmission line.

An easement may be created by means of an appropriate dealing registered in the NSW Land Registry Service or by the inclusion in a Section 88B instrument lodged with a new deposited plan.

4 JUSTIFICATION AND ALTERNATIVES

4.1 STRATEGIC JUSTIFICATION

4.1.1 Technical feasibility

The proposal would employ proven and mature solar technology. The solar site is highly suited to efficient, high output generation. Battery storage would also aid in storing and managing energy flow to the grid at times of grid constraints.

The site is flat and predominantly clear, making it an ideal location for a utility scale solar project.

A 132kV transmission line would be constructed to connect the proposal to the existing Jindera Substation, located approximately 600m south east of the proposal area.

It is noteworthy that the electricity grid in New South Wales can present challenges in terms of having the capacity to connect utility scale renewable energy projects. The proposal benefits from having good connection options adjacent to the site with sufficient capacity in the transmission network to allow power generated at the Jindera site to be exported to wider NSW.

4.1.2 Climate change

Electricity generation is the largest individual contributor of greenhouse gas emissions in Australia (Department of Environment 2016).

The proposal would contribute to the New South Wales Renewable Energy Action Plan (NSW Government 2013), which supports the national target of 20% renewable energy by 2020. The proposal would also further the three goals of the Action Plan:

1. Attract renewable energy investment and projects;
2. Build community support for renewable energy; and
3. Attract and grow expertise in renewable energy.

The *NSW 2021: A Plan to Make NSW Number One* (NSW Government 2011) has the following goal:

- *Contribute to the national renewable energy target … by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources.*

The proposal would also contribute to the Commonwealth Government's objective to achieve an additional 33GW from renewable sources by 2020 under the Renewable Energy Target (RET).

The COP21, also known as the 2015 Paris Climate Conference, achieved a legally binding and universal agreement on climate, with the aim of keeping global warming below 2°C, chiefly by reducing greenhouse gas emissions. The proposal would form part of the Australian effort to help meet this target.

4.1.3 Electricity supply

The Australian Energy Market Operator (AEMO 2016) forecasts that grid-supplied electricity consumption will remain flat for the next 20 years, despite projected 30% growth in population. Although not required to meet projected electricity demand, the proposal would benefit the network by shifting electricity production closer to local consumption and regulating inputs to the grid using an Energy Storage Facility.

The electricity network was designed to deal with a small number of very large power generating stations. The localisation of power generation helps the grid to cope with the supply from diversified renewable energy projects.

4.1.4 Socio-economic benefits

Employment

The proposal would generate around 200 direct jobs during construction plus indirect supply chain jobs. In addition, it would employ approximately 1-2 full time equivalent staff during the operation and maintenance phase (expected to be 30 years).

The employment benefits for construction extend through the local supply chains to fuel supply, vehicle servicing, uniform suppliers, hotels/motels, B&B's, cafés, pubs, catering and cleaning companies, tradespersons, tool and equipment suppliers and many other businesses.

Further extension of employment benefit extends through the operation of the proposal, such as panel cleaning and maintenance, electrical maintenance, fence supplies and maintenance, road grading, adjustment and grazing of sheep.

In 2015/16, 11,150 Australians were directly employed in the renewable energy sector with an additional 3,725 jobs expected to be created in the 2017/18 financial year (CEC 2016).

Electricity prices

According to Deloitte, Australian households will pay $510 million more for power in 2020 without renewable growth through the RET and up to $1.4 billion more per year beyond 2020. Renewables increase competition in the wholesale energy market – and, as in any market, more competition means lower prices.

Economic diversification

The proposal would diversify the use of land in the area. The predominant land use in the area is agriculture. The proposal would add to that and provide both local land holders and businesses in the broader area with an additional source of income and economic activity. The income created in the locality from the proposal would be consistent and stable. This income will be of greater security being removed from the normal cycle and risks of agricultural activity (like flood and drought).

4.1.5 Land Use

It is important to note that solar farms do not preclude the use of land for agriculture. Some agricultural activity is still possible whilst a solar farm is operating (e.g. grazing). Additionally, the degree of permanent land disturbance in the construction and operation of solar farms is small, and it's likely that agricultural activities that were occurring before the solar farm was constructed would be able to be continued once the solar farm is decommissioned and removed.

4.2 ALTERNATIVES TO THE PROPOSAL

4.2.1 Alternative sites

The proponent has reviewed the solar generation potential of many areas in NSW using a combination of computer modelling and analysis, on the ground surveying and observation, and experience of the proponent. The site was selected because it provides the optimal combination of:

- Low environmental constraints (predominantly cleared cropping land).
- Level terrain for cost-effective construction.
- High quality solar resource.
- Low density population and limited neighbouring properties.
- Suitable planning context.
- Acceptable flood risk.
- Road access.
- Access to the distribution network.
- High levels of available capacity on the grid distribution system.

The site is of a scale that allows for flexibility in design, allowing the proponent to avoid ecological and other constraints that may be identified during the EIS process. The factors that determine the final design area would be detailed in the EIS.

4.2.2 Alternative technologies

Photovoltaic solar technology was chosen because it is cost effective, low profile, durable and flexible regarding layout and siting. It is a proven and mature technology that is readily available for broad scale deployment at the site.

Battery technology was selected over mechanical or physical storage methods because it enables modular installation without major infrastructure or specialised landform features. Batteries also generally have lower weight and physical volume and better scalability compared to other technologies.

4.2.3 The 'Do Nothing' Option

Not proceeding with the proposal would forgo the benefits of the proposal, resulting in:

- The loss of a source of renewable energy that would assist the Australian and NSW Governments to reach their targets;
- The loss of cleaner energy and reduced greenhouse gas emission;
- The loss of additional electricity generation and supply into the grid; and
- Loss of social and economic benefit through the provision of direct and indirect employment.

The 'do nothing' option may avoid any potential impact however, the likelihood of significant negative impacts is low. It is considered the benefit of the proposed solar farm outweighs any potential impact whilst contributing to ecologically sustainable development.

5 PLANNING CONTEXT

5.1 NSW LEGISLATION

5.1.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and its associated regulations and instruments set the framework for development assessment in NSW. The Jindera solar farm proposal would be assessed under Part 4 of the EP&A Act.

State Environmental Planning Policy (State and Regional Development) 2011

Clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* defines 'State Significant Development' as including:

'Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that has a:

(a) capital investment value of more than $30 million, or

(b) capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.'

The proposal would have an estimated capital investment cost greater than $30 million. The proposal is therefore classified as 'State Significant Development' under Part 4 of the EP&A Act.

State Significant Developments (SSD) are major projects that require approval from the Minister for Planning and Environment. While the Minister for Planning and Environment is the consent authority for SSD, the Minister may delegate the consent authority function to the Planning and Assessment Commission (PAC), the Secretary or any other public authority.

An Environment Impact Statement (EIS) is prepared in accordance with environmental assessment requirements issued by the Secretary of the Department of Planning and Environment (SEARs). In determining the SEARs, the Secretary must consult with relevant public authorities and would have regard to the need to assess key issues raised by those public authorities. A scoping study is required to be submitted with the request for the SEARs.

5.1.2 State Environmental Planning Policy (Infrastructure) 2007

Clause 34(7) of *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) provides that development for the purpose of a 'solar energy system' may be carried out by any person with consent on any land (except land in a prescribed residential zone). The Jindera proposal is located within a rural zone and is permissible with consent under the ISEPP.

5.1.3 State Environmental Planning Policy (Rural Lands) 2008

The aims of the *State Environmental Planning Policy (Rural Lands) 2008* (Rural Lands SEPP) are:

(a) to facilitate the orderly and economic use and development of rural lands for rural and related purposes,

(b) to identify the Rural Planning Principles and the Rural Subdivision Principles to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State,

(c) to implement measures designed to reduce land use conflicts,

(d) to identify State significant agricultural land for ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,

(e) to amend provisions of other environmental planning instruments relating to concessional lots in rural subdivisions.

The Rural Lands SEPP rural planning principles, listed under clause 7, are:

(a) the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas,

(b) recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State,

(c) recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development,

(d) in planning for rural lands, to balance the social, economic and environmental interests of the community,

(e) the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,

(f) the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities,

(g) the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing,

(h) ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.

It is considered that the proposal is consistent with the aims and planning principles of the Rural Lands SEPP. Part 4 of the Rural Lands SEPP relates to state significant agricultural land. Given the proposal area is not identified in Schedule 2, it is not identified as state significant agricultural land and Part 4 does not apply.

5.1.4 Roads Act 1993

The *Roads Act 1993* (Roads Act) provides for the classification of roads and for the declaration of the Roads and Maritime Services (RMS) and other public authorities as roads authorities for both classified and unclassified roads. It also regulates the carrying out of various activities in, on and over public roads. The need for upgrade works on local roads would be considered as part of the traffic assessment conducted for the proposal. If required, approval from the roads authority (RMS and/or Council) would be sought under Section 138 of the Roads Act. Greater Hume Shire Council, and RMS if required, would be consulted during the design and preparation of the EIS.

5.1.5 Biodiversity Conservation Act 2016

The NSW Government introduced new biodiversity legislation for the consideration and assessment of biodiversity impacts. The *Biodiversity Conservation Act 2016* (BC Act) and *Local Land Services Act 2013* (LLS Act) commenced on 25th August 2017 and have replaced the *Threatened Species Conservation Act 1995*.

The proposal would require assessment under Section 7.9 of the BC Act. A preliminary assessment of potential impacts has been conducted in Section 7 of this report.

5.1.6 National Parks and Wildlife Act 1974

Under the *National Parks and Wildlife Act 1974*, the Director-General of the National Parks and Wildlife Service is responsible for the care, control and management of all national parks, historic sites, nature reserves, Aboriginal areas and state game reserves. The Director-General is also responsible under this legislation for the protection and care of native fauna and flora and Aboriginal places and objects throughout NSW. Under Section 89J of the EP&A Act, an Aboriginal Heritage Impact Permit under Section 90 of the *National Parks and Wildlife Act 1974* would not be required for a State Significant Development. The potential impacts to Aboriginal heritage are discussed in Section 7 of this report.

5.1.7 Heritage Act 1977

This Act aims to conserve heritage values. The Act defines 'environmental heritage' as those places, buildings, works, relics, moveable objects and precincts listed in the Local or State Heritage Significance Register. Heritage items are listed in the environmental heritage schedule of the local Council's Local Environmental Plan or listed on the State Heritage Register, a register of places and items of particular importance to the people of NSW. Under Section 89J of the EP&A Act, an approval under Part 4 or a permit under Section 139 of the *Heritage Act 1977* would not be required for a State Significant Development. The proposal is unlikely to directly or indirectly affect any items of heritage significance (refer to Section 7).

5.1.8 Crown Lands Act 1989

The objects of this Act are to ensure that Crown land is managed for the benefit of the people of New South Wales. Under Part 3 of the Act, the Minister for Lands must be satisfied that the land has been assessed prior to any allocation action, i.e. reservation, dedication, sale, lease, licence or permit. The purpose of a land assessment is to ensure that decisions made in relation to Crown land are in accordance with the principles of Crown land management by (amongst other matters) including an assessment of the capabilities of Crown land and the identification of suitable land uses.

Two Crown paper roads or residual road corridors with no developed infrastructure exist adjacent to the proposal. These have, however, been excluded from the Subject Land and overall lease of the proposal. This would be further investigated in the EIS and the Department of Industries (Lands) would be consulted during the assessment process. The design for the solar farm will ensure the crown roads are not impacted

5.1.9 Conveyancing Act 1919

The purpose of the *Conveyancing Act* is to amend and consolidate the law of property and to simplify and improve the practice of conveyancing, and for such purposes to amend certain Acts relating thereto.

Subdivision or creation of an easement may be required for the purpose of the transmission line and substation infrastructure.

5.2 LOCAL GOVERNMENT

5.2.1 Greater Hume Local Environmental Plan 2012

The proposal is in the Greater Hume LGA and is subject to the *Greater Hume Local Environmental Plan 2012* (LEP).

The aims of the LEP are:

a) to encourage sustainable economic growth and development in Greater Hume.
b) to protect and retain productive agricultural land.
c) to protect, conserve and enhance natural assets.
d) to protect built and cultural heritage.
e) to provide opportunities for the growth of townships.

The proposal area is zoned RU1 - Primary Production under the Greater Hume LEP (Figure 5-1). Electrical generation is not listed among developments that are permitted within the zone. However, the ISEPP takes precedence over an LEP and permits solar energy systems with consent in the RU1 zone.

Land Use Zone Objectives

The LEP states that the consent authority must have regard to the objectives for development in a zone when determining a development application. The objectives of the RU1 zone are to:

a) Encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
b) Encourage diversity in primary industry enterprises and systems appropriate for the area.
c) Minimise the fragmentation and alienation of resource lands.
d) Minimise conflict between land uses within this zone and land uses within adjoining zones.
e) Maintain the rural landscape character of the land.

The proposal would have negligible impact on primary industry production within the Greater Hume LGA. The degree of permanent land disturbance as a result of construction and operation of the solar farms is small and would not result in fragmentation and alienation of resource lands. Some agricultural activity is still possible whilst the solar farm is operating (e.g. grazing), and it is likely that agricultural activities which were occurring before the solar farm was constructed would be able to be continued once the solar farm is decommissioned and removed.

Minimum subdivision lot size

Clause 4.1(3) of the LEP states that 'the size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

With respect to the subject land, which is zoned RU1 Primary Production, the minimum lot size shown on the Lot Size Map is 100ha. Therefore, the subdivision of land would result in the creation allotments comprising an area of land that does not meet the minimum lot size and therefore is not permitted under the provisions of the Greater Hume LEP 2012.

However, Greater Hume Council have indicated that they would not object to subdivision under the minimum lot size for the purpose of the proposal.

However, given the development proposal is a State Significant Development (SSD), DPE is able to approve the subdivision of land as part of the overall development for the solar farm under the provisions of the Environmental Planning and Assessment Act 1979 and the State Environmental Planning Policy (State and Regional Development) 2011.

Clause 8(2) of the SEPP State & Regional Development 2011 states that if a single development application comprises development that is only partly State Significant Development, the remainder of the development is also declared to be State Significant Development. Former consultation with the DPE confirmed that the intent of this clause means if the subdivision is included in the development application with the solar farm, the subdivision is also declared to be state significant.

Clause 4.38(3) of the EP&A Act states that development consent for State Significant Development may be granted despite the development being prohibited by an environmental planning instrument. Therefore, if the subdivision is not permitted by the LEP due to the minimum lot size restrictions, Consent may still be granted as the project is State Significant Development.

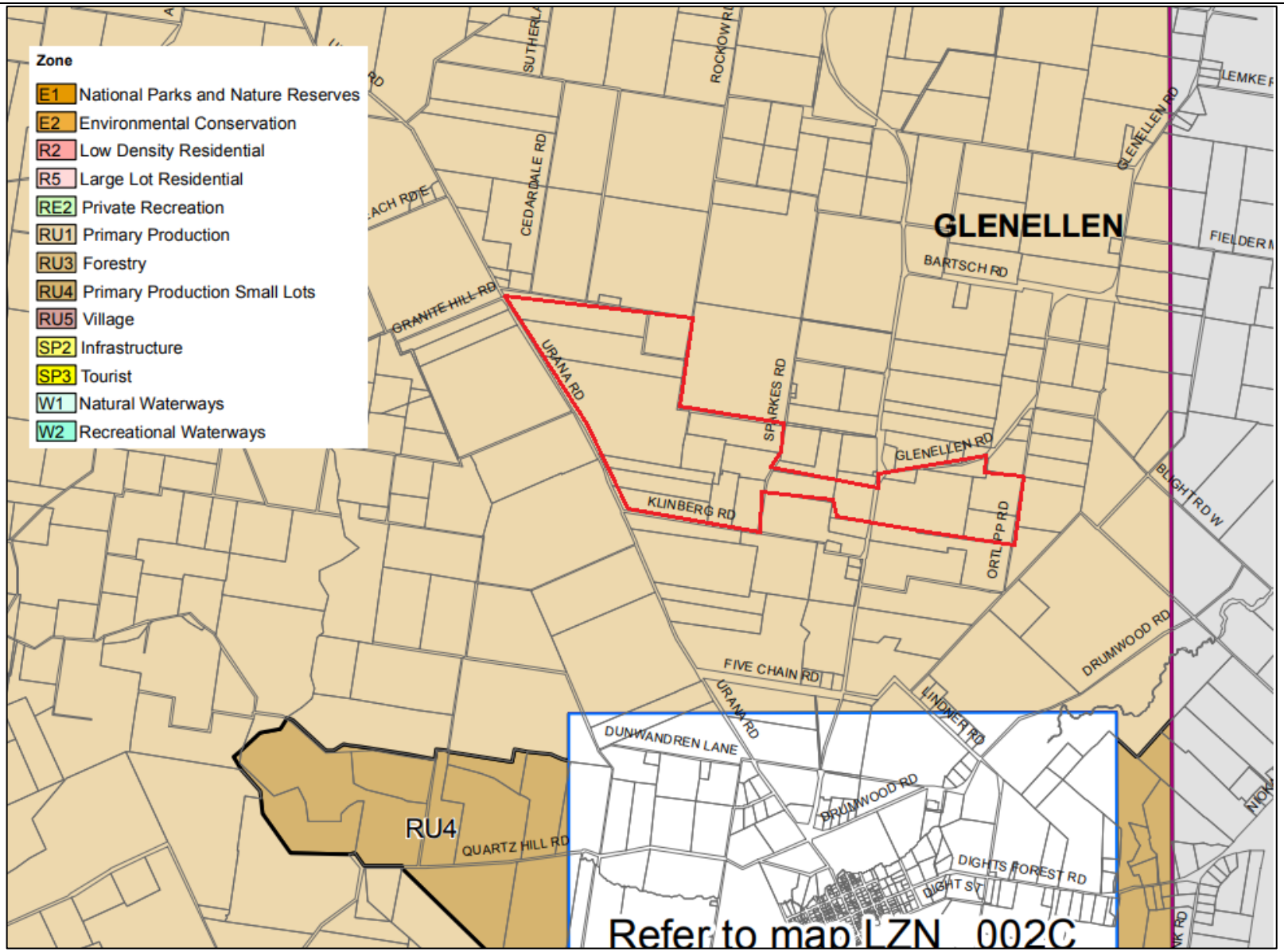

Figure 5-1 Greater Hume LEP zoning, location of proposal shown in red.

5.3 COMMONWEALTH LEGISLATION

5.3.1 Environmental Protection and Biodiversity Conservation Act 1999

The EPBC Act provides an assessment and approval process for actions likely to cause a significant impact on Matters of National Environmental Significance (MNES). These include:

- World Heritage properties.
- National Heritage places.
- Wetlands of international importance (listed under the Ramsar Convention).
- Listed threatened species and ecological communities.
- Migratory species protected under international agreements.
- Nuclear actions (including uranium mines).
- Commonwealth marine areas.
- The Great Barrier Reef Marine Park.
- A water resource, in relation to coal seam gas development and large coal mining development.

Approval by the Commonwealth Environment Minister is required if an action is likely to have a significant impact on a MNES. Assessments of significance based on criteria listed in Significant Impact Guidelines 1.1 issued by the Commonwealth (Commonwealth of Australia 2013) are used to determine whether the proposed action is likely to have a significant impact (i.e. is likely to be considered a 'controlled action').

A search of the Commonwealth Protected Matters Search Tool (10 km buffer, undertaken on 27 November 2017) indicated three threatened ecological communities, 22 threatened species and 13 migratory species within the search area. Surveys to determine the presence and likelihood of impact to these entities would be undertaken during the preparation of the EIS. Seven important wetlands are indicated in the search, all of which are more than 300 km upstream, except for the Barmah Forest (125 km west of the proposal), Gunbower Forest (240 km north-west of the proposal) and NSW Central Murray State Forests (125-240 km north-west of the proposal).

A summary of the EPBC Act search report is provided in Table 5-1.

Table 5-1 Summary of EPBC Act Protected Matters Report search results

Protected Matter	Entities within the search area
World Heritage Properties	0
National Heritage	0
Wetlands of International Significance (Ramsar)	7
Threatened Ecological Communities	3
Threatened Species	22
Migratory Species	13
Listed Marine Species	19
Commonwealth land	0
Commonwealth Heritage places	0
Critical habitats	0
Commonwealth reserves (terrestrial)	0
State reserves	0

Protected Matter	Entities within the search area
Regional Forest Agreements	0
Invasive species	34
Nationally Important Wetlands	0

5.3.2 Native Title Act 1993

The *Native Title Act 1993* provides a legislative framework for the recognition and protection of common law native title rights. Native title is the recognition by Australian law that Indigenous people had a system of law and ownership of their lands before European settlement. Where that traditional connection to land and waters has been maintained and where government acts have not removed it, the law recognises this as native title.

People who hold native title have a right to consult or continue to practise their law and customs over traditional lands and waters while respecting other Australian laws. This could include visiting to protect important places, making decisions about the future use of the land or waters, hunting, gathering and collecting bush medicines. Further, when a native title claimant application is registered by the National Native Title Tribunal, the people seeking native title recognition gain a right to consult or negotiate with anyone who wants to undertake a project on the area claimed.

Where native title does exist in relation to the proposal site, the proponent would comply with the provisions of the *Native Title Act 1993*.

A search of the National Native Title Tribunal website (NNTT 2018) did not indicate any native title claims, land use agreements, applications or determinations within the development site.

6 CONSULTATION

Community and stakeholder consultation will be integral to the proposal. The proponent and NGH Environmental have begun consultation with a wide range of relevant Local Government, State and Commonwealth authorities, neighbours, as well as local businesses, community groups, adjacent neighbours and other interested parties.

A Community Consultation Plan (CCP) has been prepared to provide a framework to engage with the community and stakeholders about the proposal and ensure opportunities to provide input into the assessment and development process are understood. Stakeholders were identified as those potentially being impacted by the solar farm proposal or having an interest in the proposal:

Table 6-1 Impacted or interested stakeholder groups

Stakeholder group	Defining characteristics
1. Adjacent Neighbours	Neighbours adjacent to the project and those who may be directly affected, for example: those with a view of infrastructure, or affected by noise or vibration from haulage route or construction activities. There is one involved dwelling within the Subject Land, and 26 dwellings adjacent to or within 1 km of the subject land (4 of which are either derelict or currently not occupied) (Figure 7-3).
2. Near Neighbours	Being a major development within a small town, direct impacts may be of great interest to residents and businesses. Understanding the values and potential impacts to this group is highly important. It will assist the assessment process and development of appropriate mitigation strategies. Face to face consultation and direct feedback is required, and mitigation strategies may require changes to the project or the development of specific plans of management i.e. screening visual impact. The centre of Jindera and the new industrial estate is within 5 km of the subject land potentially affecting a number of homes and industries.
3. Adjacent and Local Businesses	Being close to the town of Jindera, there are many businesses located within 3 km of the site. This includes schools, accommodation, function facilities and eateries, banks, churches, the Jindera Pioneer Museum and other goods and service suppliers. Some businesses may be directly or indirectly affected through view of infrastructure, noise or vibration from haulage route or construction activities. Positive impacts would be generated during construction through demand for accommodation, catering, supply of tools, plant, fuel, services, labour etc. Local businesses would be given the opportunity to tender for the supply of services for the project both during construction and during operation. Farming is also considered a business and is addressed through the neighbour analysis.

Stakeholder group	Defining characteristics
4. Special interest groups	Special interest groups were identified specific to this proposal: • West Hume, Culcairn, Holbrook, Alma Park Pleasant Hills, Bungowanah – Splitters, Doodle Cooma and Eastern Riverina Landcare Groups. • Nature Conservation Working Group.
5. Representative bodies	Representatives of groups such as: • Chamber of Commerce. • Local State and National members of Parliament. • Albury and District Local Aboriginal Land Council. • Holbrook Visitors Information Centre. • Greater Hume Shire Council. • TransGrid.
6. Media	Outlets to ensure a clear message is delivered: Local radio, television, newspapers, project website.
7. Broader community	The project is likely to be of interest to the broader local and regional community. The region's history has been rich in cropping and livestock farming. The proposed solar farm would provide an economic stimulus for the area during construction and would be a positive step forward in the renewable energy sector.
8. Greater Hume Shire	Consultation with the Greater Hume Shire Council and broader community has commenced. There is a perception amongst parts of the community that the land is classified high capability agricultural land. While broad scale direct impacts are unlikely, it is still likely that the community could perceived negative impacts to agricultural capacity and productivity. Local change in land use will be experienced and will require explanation and justification.

The CCP has set out consultation requirements with interested parties including adjacent neighbours, near neighbours, local businesses, any special interest groups and representative bodies. The plan also includes strategies for consultation with the local community and the broader community within the region. This includes:

- Face to face meetings with neighbours, local business, interested stakeholders etc.
- Community participation.
- Phone calls.
- Feedback forms.
- An avenue to receive information and provide specific feedback.
- Newsletter and/or factsheet drops.

The CCP aims to ensure that there is effective, ongoing liaison with the community. Measures to reduce adverse impacts and promote positive impacts would be identified in the EIS and appropriate management plans developed for the proposal.

Agency consultation would also be undertaken in accordance with any requirements of the SEARs.

Consultation to date

To date, the following activities, consistent with the CCP, have been undertaken:

- Greater Hume Shire Council was approached through a meeting to introduce the proposal on 25 January 2018.
- Nearest neighbours were visited at their homes to introduce and discuss the proposal on 31 July 2018. Information leaflets were left with all residents. Follow up meetings are now underway to meet further with neighbours
- An additional meeting with Greater Hume Shire to provide updates was undertaken on 1 August 2018.
- A pre-SEARs meeting was undertaken with the Department of Planning and Environment on 2 August 2018.
- A Clause 13 Compatibility Test for minerals was requested from Geological Survey of NSW (DPE) on 3 August 2018.
- Advertisement and registration for the Aboriginal Cultural Heritage Assessment process commenced on 8 August 2018 and is proposed to close on 22 August 2018.

7 PRELIMINARY ENVIRONMENTAL ASSESSMENT

7.1 METHODOLOGY

A preliminary environmental risk assessment has been conducted to assist in the identification of key environmental matters that would require detailed assessment within the EIS. Risks were identified for both the construction and operation phase of the proposal and analysed in relation to their possible consequence and likelihood of occurrence. From this analysis, some environmental matters were deemed to be key issues on the basis that they had the potential, without suitable mitigation, to have a significant impact on the environment.

The assessment is based on a desktop review and preliminary site inspection (involving flora and fauna surveys) to identify potential high-level constraints and major risks to the proposal. A preliminary constraints map is provided in Figure 7-1. This will be used to guide further detailed investigations and ultimately the site infrastructure layout. Constraints mapping will also be refined based on these investigations prior to submission of the EIS.

A summary of the key environmental issues is provided in Section 7.2. The intent of the discussion is to demonstrate an understanding of the issues that require further environmental assessment and likely mitigation measures for these key issues. The potential impacts and management of other (less significant) issues are discussed in Section 7.3.

The following environmental risks are considered to be key aspects:

- Biodiversity.
- Aboriginal Heritage.
- Visual amenity.
- Noise.
- Land use and resources.
- Watercourses and hydrology.

7.2 ASSESSMENT OF KEY ENVIRONMENTAL ISSUES

7.2.1 Biodiversity

Methodology

NGH Environmental has undertaken a preliminary constraints assessment of the proposal to identify potential high-level constraints and major risks to the proposal.

The potential ecological constraints within the study area have been identified based on the following information sources:

- Threatened species and community listings under the BC Act and EPBC Act;
- Commonwealth EPBC Act Protected Matter Search Tool, using a 10-km search radius;
- Areas of outstanding biodiversity values declared under the BC Act;
- Threatened species and communities' records in the Bionet Database (OEH), using a 10-km search radius;
- Threatened species and communities' records in the IBRA Region NSW South Western Slopes and Lower Slopes Subregion.
- Office of Environment and Heritage (OEH) Vegetation Information System (VIS) Mapping;
- NSW Government's SEED (Sharing and Enabling Environmental Data) Mapping; and
- A preliminary site inspection by an ecologist.

Overview

The proposal area has been selected on the basis that it supports limited native vegetation. The land has been extensively farmed, including cropping and grazing over a long period of time.

The primary constraint is associated with remnant woodland vegetation throughout the proposal site. Further survey of the area is a requirement of the EIS, and a full assessment of the impact to potential habitat in these areas would be conducted.

Database searches

The EPBC Act Protected Matters Search undertaken on 27 November 2017 indicated three listed threatened ecological communities which may or are likely to occur in the search area (Appendix B):

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia.
- Weeping Myall Woodlands.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The EPBC Act search indicated 4 threatened flora species and 18 threatened fauna species that are either known to occur or have potential to occur in the search area.

The NSW Bionet search indicated 1 threatened flora species and 7 threatened fauna records for the search area. One threatened species, the Squirrel Glider (*Petaurus norfolcensis*) has been recently recorded within the development site in a patch of remnant woodland in the centre of the western paddocks. This woodland patch has been avoided by the proposal. The threatened species indicated by the searches are shown in Table 7-1.

Table 7-1 Threatened flora and fauna species indicated in the databases searches

Species	Indicated in search?	
	EPBC Act	BC Act
Plants		
Small Purple-pea, Mountain Swainson-pea, Small Purple Pea (Swainsona recta*)*	✓	-
Small Scurf-pea (*Cullen parvum*)	-	✓
River Swamp Wallaby-grass, Floating Swamp Wallaby-grass (*Amphibromus fluitans*)	✓	-
Tarengo Leek Oechid (*Prasophyllum petilum*)	✓	-
Sturdy Leek-orchid (*Prasophyllum validum*)	✓	-
Frogs		
Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog (*Litoria raniformis*)	✓	-
Birds		
Australasian Bittern (*Botaurus poiciloptilus*)	✓	-
Black-chinned Honeyeater (*Melithreptus gularis*)	-	✓
Curlew Sandpiper (*Calidris ferruginea*)	✓	-
Dusky Woodswallow (*Artamus cyanopterus*	-	✓
Australian Painted Snipe (*Rostratula australis*)	✓	-
Painted Honeyeater (*Grantiella picta*)	✓	-
Superb Parrot (*Polytelis swainsonii*)	✓	-
Swift Parrot (*Lathamus discolour*)	✓	-
Turquoise Parrot (*Neophema pulchella*)	-	✓
Regent Honeyeater (*Botaurus poiciloptilus*)	✓	-
Eastern Curlew, Far Eastern Curlew (*Numenius madagascariensis*)	✓	-
Flame Robin (*Petroica phoenicea*)	-	✓
White-bellied Sea-Eagle (*Haliaeetus leucogaster*)	-	✓
Mammals		
Corben's Long-eared Bat, South-eastern Long-eared Bat (*Nyctophilus corbeni*)	✓	-
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) (*Phascolarctos cinereus*) (combined populations of Qld, NSW and the ACT)	✓	✓
Grey-headed Flying-fox	✓	-
Greater Glider (*Petauroides volans*)	✓	-
Squirrel Glider (*Petaurus norfolcensis*)	-	✓
Fish		
Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow (*Galaxias rostratus*)	✓	-
Murray Cod (*Maccullochelle peelii*)	✓	-
Macquarie Perch (*Macquarie Perch*)	✓	-
Reptiles	-	-
Pink-tailed Worm-lizard, Pink-tailed Legless Lizard (*Aprasia parapulchella*)	✓	-
Striped Legless Lizard (*Delma impar*)	✓	-

Vegetation Mapping

An assessment was undertaken of existing vegetation mapping of the proposal area. The proposal area is not listed as an area of outstanding biodiversity value under the Biodiversity Conservation Act.

The NSW Government's SEED mapping for the locality shows exotic vegetation throughout the proposal area, with patches of White Box grassy woodland and Blakely's Red Gum-Yellow Box grassy tall woodland. A small patch of Canegrass Swamp tall grassland wetland (south-west of Klinberg Road) and Lignum Shrubland Wetland of the semi-arid plains (west of Walla Walla Jindera Road and east of Ortlipp Road) was mapped surrounding the proposal area. This mapping is based on spatial modelling.

Site inspection

A field survey inspection was undertaken on 29th and 30th November 2017. The results of the field survey are shown in Figure 7-1 and Figure 7-2.

Most of the development site has been largely cleared of native vegetation through past agricultural practices. The vegetation within the development site is predominately exotic and comprises crops of Wheat (**Triticum* sp.) and Barley (**Hordeum* sp.) or exotic pastures comprised of species such as Phalaris (**Phalaris aquatica*), Arrow-leaf Clover (**Trifolium vesiculosum)* Rye Grass (**Lolium perenne*), Fescue (**Vulpia sp.*), and Brome Grasses (**Bromus catharticus, *B. hordeaceus, *B. diandrus*).

Native vegetation remains as scattered paddock trees over an exotic pasture or small isolated patches or remnant woodland. The understory of these woodland patches has undergone frequent disturbance by grazing and agricultural practices and are dominated by exotic species such as Barley Grass (**Hordeum leporinum*) and Rye Grass (**Lolium perenne*). Yellow Box (*Eucalyptus melliodora*) and Blakely's Red Gum (*Eucalyptus blakelyi*) are the dominant trees remaining in the development site. Higher quality vegetation of Yellow Box, Blakely's Red Gum and White Box (*Eucalyptus albens*) remains along the roadsides bordering the proposal area. These road reserves have a mix of native groundcovers, shrubs and overstorey canopy.

An area of planted native vegetation occurs along Deadhorse Creek on the Western property. The planted native vegetation is comprised of a mix of Eucalypt and Acacia species.

One ephemeral wetland occurs on the eastern property, alongside Glenellen Road. This wetland was dry at the time of the survey but comprised moisture-loving plants such as Swamp Wallaby Grass (*Amphibromus nervosus*), Blown Grass (*Lachnagrostis filiformis*), Lesser Joyweed (*Alternanthera denticulata*), Rushes (*Juncus usistatis*) and Sedges (*Eleocharis acuta*). This wetland occurred in a shallow depression comprised of grey cracking clays.

Ten farm dams occur within the development site. The majority of these dams are devoid of native vegetation and are surrounded by exotic vegetation such as Phalaris, Rye Grass and Barley Grass or no vegetation at all. One farm dam, in the southern section of the eastern property, is surrounded by native grasses such as Ringed Wallaby Grass (*Rytidosperma caespitosa*), Wallaby Grass (*Rytidosperma duttonianum*), Wheat Grass (*Anthosachne scabra*) and Blown Grass (*Lachnagrostis filiformis*). This derived native grassland expands around the dam and along a drainage channel leading to a larger man-made dam. River Red Gum (*Eucalyptus camaldulensis*) occur in the over-storey in this area.

The ephemeral wetland, dams with fringing vegetation and large man-made dam could provide habitat for the Sloane's Froglet (*Crinia sloanei*) and Southern Bell Frog (*Litoria raniformis*). The Sloane's Froglet is typically associated with periodically inundated areas of grassland, woodland and disturbed habitats. The Southern Bell Frog is associated with swamps and billabongs along floodplains and river valleys. These areas would be further assessed for the presence of threatened species as part of the EIS.

The areas of remnant vegetation provide habitat and fauna movement corridors. Hollow bearing trees and a good condition over-storey could provide habitat for several threatened woodland birds and mammals including the Squirrel Glider (*Petaurus norfolcensis*) and Koala (*Phascolarctos cinereus*). These areas of remnant vegetation would be further surveyed for fauna species during the preparation of the EIS.

Plant Community Types and Endangered Ecological Communities

Based on existing vegetation mapping and the initial site inspection, vegetation within the proposal area was assigned to Plant Community Types (PCTs) in accordance with the Vegetation Information System Classification Database. PCTs were determined based on the presence of diagnostic species identified in the site survey. The results are preliminary in nature and would be refined following detailed vegetation survey of the site, and the undertaking of Floristic Plots in accordance with the Biodiversity Assessment Methodology (OEH, 2017).

PCT's identified within the proposal area are:

PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion.

PCT 266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion.

PCT 360 – Gilgai wetland mosaic in the southern NSW South Western Slopes Bioregion.

PCT 9 - River Red Gum - wallaby grass tall woodland wetland on the outer River Red Gum zone mainly in the Riverina Bioregion.

PCT 277 and PCT 266 form part of the Threatened Ecological Community - *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. This community is listed as Endangered under the BC Act. Further assessment is required to determine whether the vegetation communities form part of the critically endangered community - *White Box–Yellow Box–Blakely's Red Gum Grassy Woodland and Derived Native Grassland* under the EPBC Act.

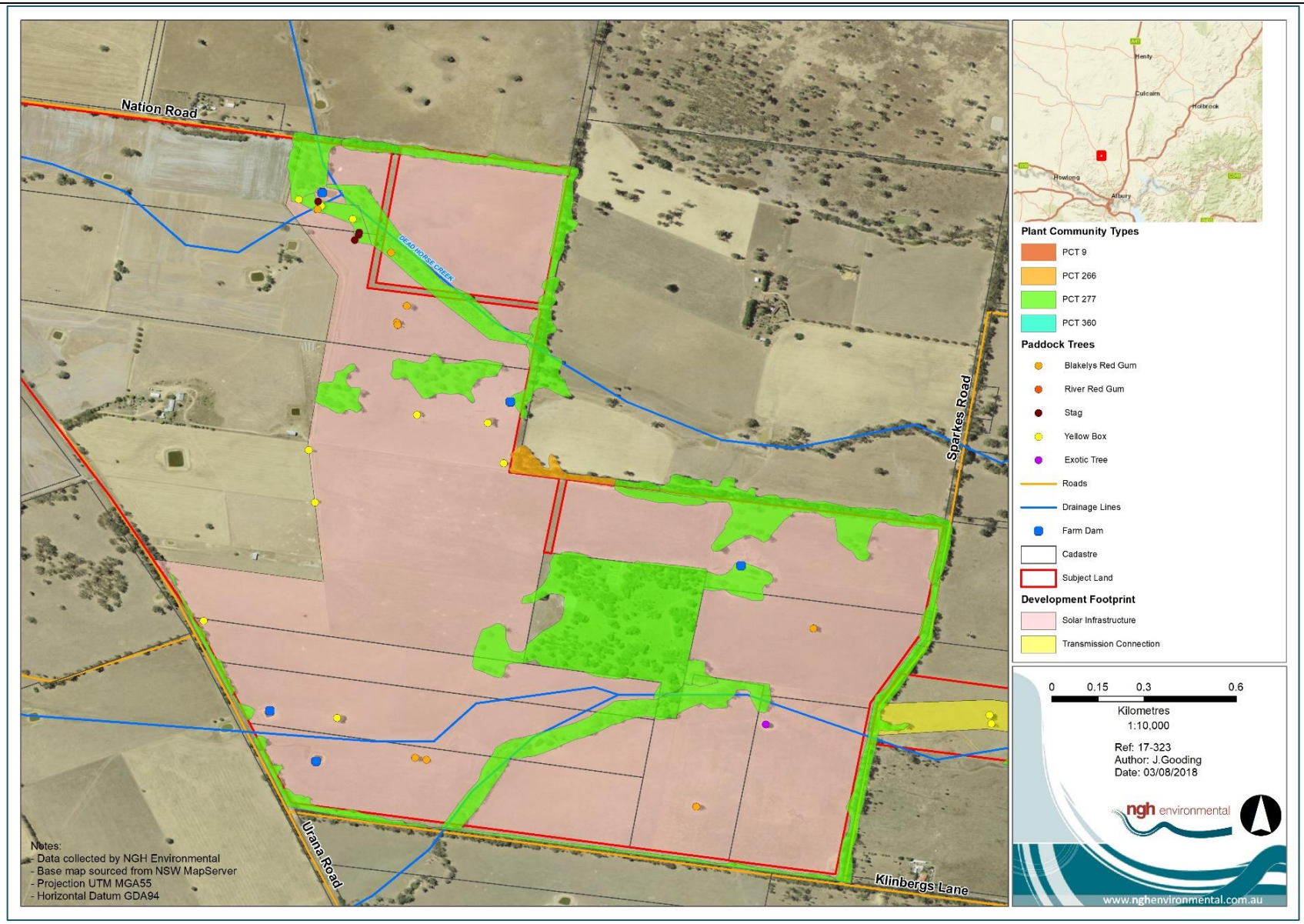

Figure 7-1 Jindera Solar Farm preliminary biodiversity survey results – Western section

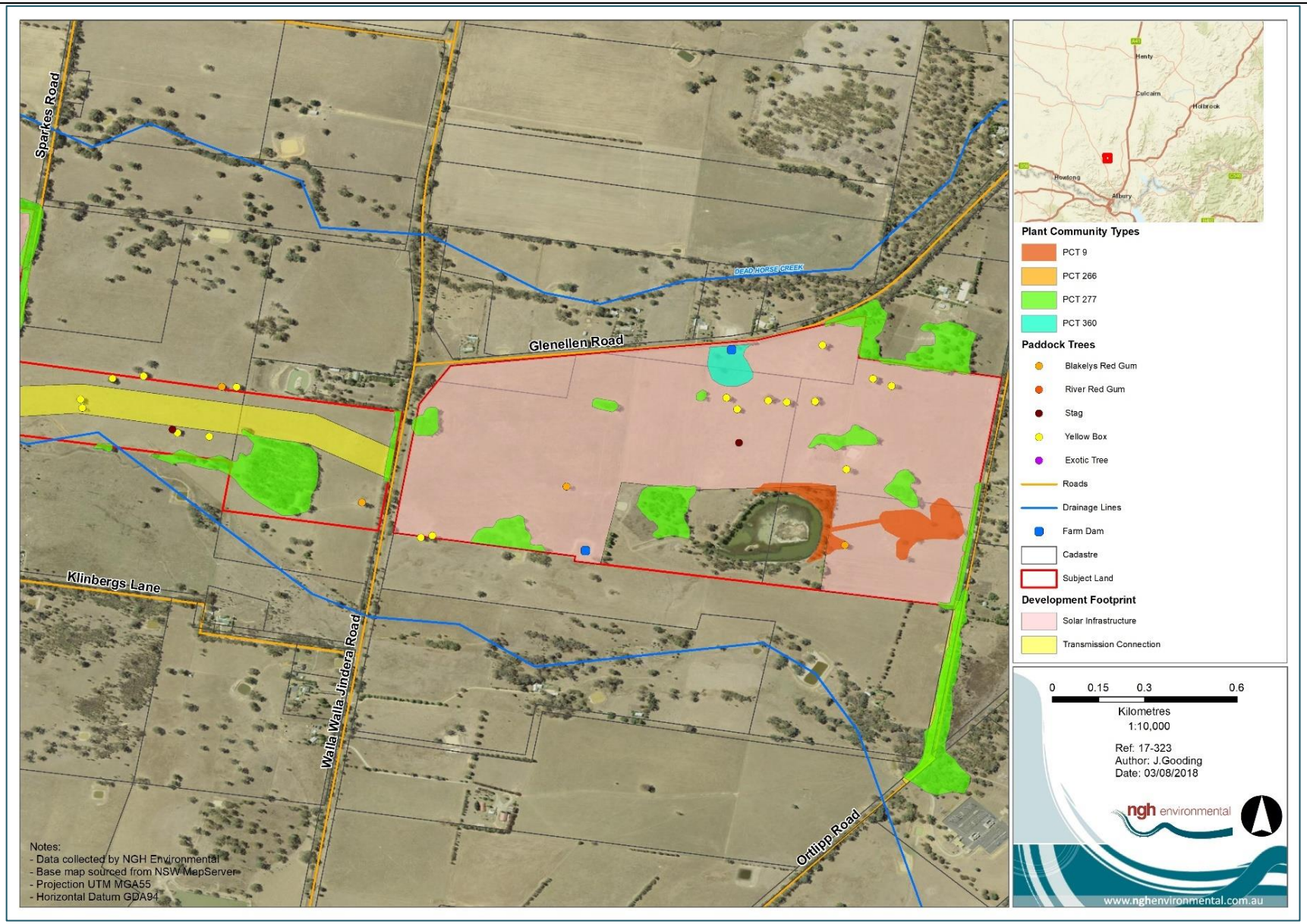

Figure 7-2 Jindera Solar Farm preliminary biodiversity survey results – Eastern section

Threatened Species

The proposal would be assessed through the Biodiversity Assessment Methodology (OEH 2017). Once full floristic plots have been undertaken in areas of native vegetation to be impacted, the Biodiversity Assessment Methodology Calculator would determine credit species requiring further consideration. A draft BAM Calculator was run for the results of the initial biodiversity survey results. The results are preliminary and would be refined following detailed vegetation survey of the site, and the undertaking of Floristic Plots in accordance with the Biodiversity Assessment Methodology (OEH, 2017). The results of the BAM calculations are listed in Table 7-2 Preliminary BAM calculations and are used to provide preliminary advice on species that may require further assessment during the preparation of the EIS. A habitat table for the preliminary BAM indicated species is included in Appendix A.

Table 7-2 Preliminary BAM calculations

Common Name	Scientific Name	Survey Period
Fauna		
Bush Stone-curlew	*Burhinus grallarius*	All year
Eastern Pygmy Possum	*Cercartetus nanus*	October - March
Sloane's Froglet	*Crinia sloanei*	July – August
Southern Bell Frog	*Litoria raniformis*	October - January
Little Eagle	*Hieraetus morphnoides*	August – October
Large Eared Pied Bat	*Chalinolobus dwyeri*	September - March
Squirrel Glider	*Petaurus norfolcensis*	All Year
Swift Parrot	*Lathamus discolor*	May – August
Southern Myotis	*Myotis macropus*	November – March
Barking Owl	*Ninox connivens*	May – December
Koala	*Phascolarctos cinereus*	All year
Major Mitchell's Cockatoo	*Lophochroa leadbeateri*	September – December
Glossy Black Cockatoo	*Cercvartetus nanus*	March – August
Masked Owl	*Tyto novaehollandiae*	May – August
Square-tailed Kite	*Lophoictinia isura*	September – January
Superb Parrot	*Polytelis swainsonii*	September – November
Grey-headed Flying Fox	*Pteropus poliocephalus*	October - December
Gang Gang Cockatoo	*Callocephalon Fimbriatum*	October - January

Common Name	Scientific Name	Survey Period
White-bellied Sea-Eagle	*Haliaeetus morphnoides*	July - December
Regent Honeyeater	*Anthochaera phrygia*	September – December
Flora		
Austral Pillwort	*Pilularia novae-hollandiae*	All year
Floating Swamp Wallaby Grass	*Amphibromus fluitans*	December - March
Claypan Daisy	*Brachyscome muelleroides*	All Year
Small Scurf-pea	*Cullen parvum*	December – February
Small Purple-pea	*Swainsona recta*	September - November
Silky Swainson-pea	*Swainsona sericea*	September – February
Ausfeld's Wattle	*Acacia ausfeldii*	All year

Potential Impacts

The following impacts upon biodiversity have been considered as having potential to occur during the construction and operation of the proposal:

- Clearing, removal and disturbance of vegetation, in particular paddock trees;
- Clearing of limited habitat (including disturbance of foraging habitat, sheltering and breeding habitat);
- Loss of connectivity and nesting sites;
- Introduction and spread of invasive species and weeds;
- Increased risk of competition with regenerating native plants;
- Disturbance or displacement of fauna;
- Microclimate impacts due to shading, water availability, temperature etc.; and
- Movement barrier and collision hazard by perimeter fencing.

Further assessment

A full floristic plot survey is required to determine the floristic composition, condition and EEC status of native vegetation at the proposal site. Fauna survey and habitat assessment is also required to determine the potential for the presence of threatened fauna species and habitat features such as tree hollows. These surveys and assessments would be undertaken as part of the EIS, under the BAM. This would include the calculation of any biodiversity offset required for the project.

7.2.2 Aboriginal heritage

A search of the Aboriginal Heritage Information Management System (AHIMS) on 1 August 2018 identified 7 Aboriginal sites and no Aboriginal places within one km of the proposal site ((Appendix B), with none recorded on-site.

Landforms, vegetation and soils over much of the proposal site have been heavily disturbed by paddock levelling, cultivation, track formation and clearing for agriculture. This is likely to reduce the potential for Aboriginal heritage sites of significance in the affected areas. Conversely, unmodified areas with remnant woodlands exist within the site and are likely to have a higher potential for significance. It is noted that field assessment is required to confirm this and that any Aboriginal heritage sites/items/etc. identified would be a moderate to high constraint, requiring impact mitigation.

Aboriginal consultation

Consultation with Aboriginal stakeholders would be undertaken in accordance with clause *80C* of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents provided by OEH.

A brief summary of the consultation process includes:

1. Registration and initial consultation and registration of Aboriginal community members.
2. Review of survey methodology by Registered Aboriginal Parties (RAPs).
3. Completion of field work and reporting.
4. Review of report by RAPs.
5. Report finalisation.

Advertisement and registration for the Aboriginal Cultural Heritage Assessment process commenced on 8 August 2018 and is proposed to close on 22 August 2018.

Potential impacts

The following impacts upon Aboriginal heritage have been considered as having potential to occur during the construction of the proposal:

- Uncovering an unexpected or unidentified Aboriginal heritage item.

Further assessment

An Aboriginal heritage assessment of the development footprint and stakeholder consultation process would be completed as part of the EIS. The significance of any Aboriginal heritage sites that may be potentially affected by the proposal would be determined in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).

7.2.3 Visual amenity and landscape character

The proposal has potential to result in visual impacts to neighbouring houses and road users adjacent to the site. The site is located within a rural area with large lot agricultural production and sparsely distributed residences usually located some distance from main roads. There are approximately 26 potentially sensitive receivers within 1km of the subject land (see Figure 7-3). The flat terrain and intermittent tree cover limits long range views in the locality.

An assessment of the level of visual disturbance would be undertaken as part of the EIS. The EIS would also consider the potential for the solar farm to affect local landscape character. Additional consultation with specific affected residences would be undertaken to identify the nature and significance of impacts and the need for mitigation measures. The level terrain improves the potential effectiveness of vegetation plantings as screening around the site.

It is noted that solar panels are designed to absorb as much sunlight as possible. They therefore reflect a very low percentage of the light and are not considered likely to result in glare or reflections that would affect traffic or nearby receivers.

Further assessment

A visual impact assessment including photo montages and community consultation would be prepared as part of the EIS to investigate visual impacts and mitigation options.

7.2.4 Noise

There are approximately 26 potentially sensitive receivers within 1 km of the proposal area (Figure 7-3). Noise impacts, for the most part, only occur during construction (generated by construction vehicles and machinery), with minimal noise likely to be generated during operation. The proponent would adopt best practice mitigation measures during construction, such as standard work hours and regular vehicle and machinery maintenance to reduce the risk of adverse noise impacts.

During the operation of the solar farm, low level noise would be potentially produced by the solar tracking system, the substation and switchgear and any maintenance works undertaken at the site. Noise impacts during operation of the solar farm are expected to be very low.

Further assessment

A construction and operational noise assessment would be undertaken as part of the EIS to assess potential noise impacts. The assessment would be undertaken in accordance with the Interim Construction Noise Guideline (DECC 2009) and NSW Noise Policy for Industry (NSW EPA 2017).

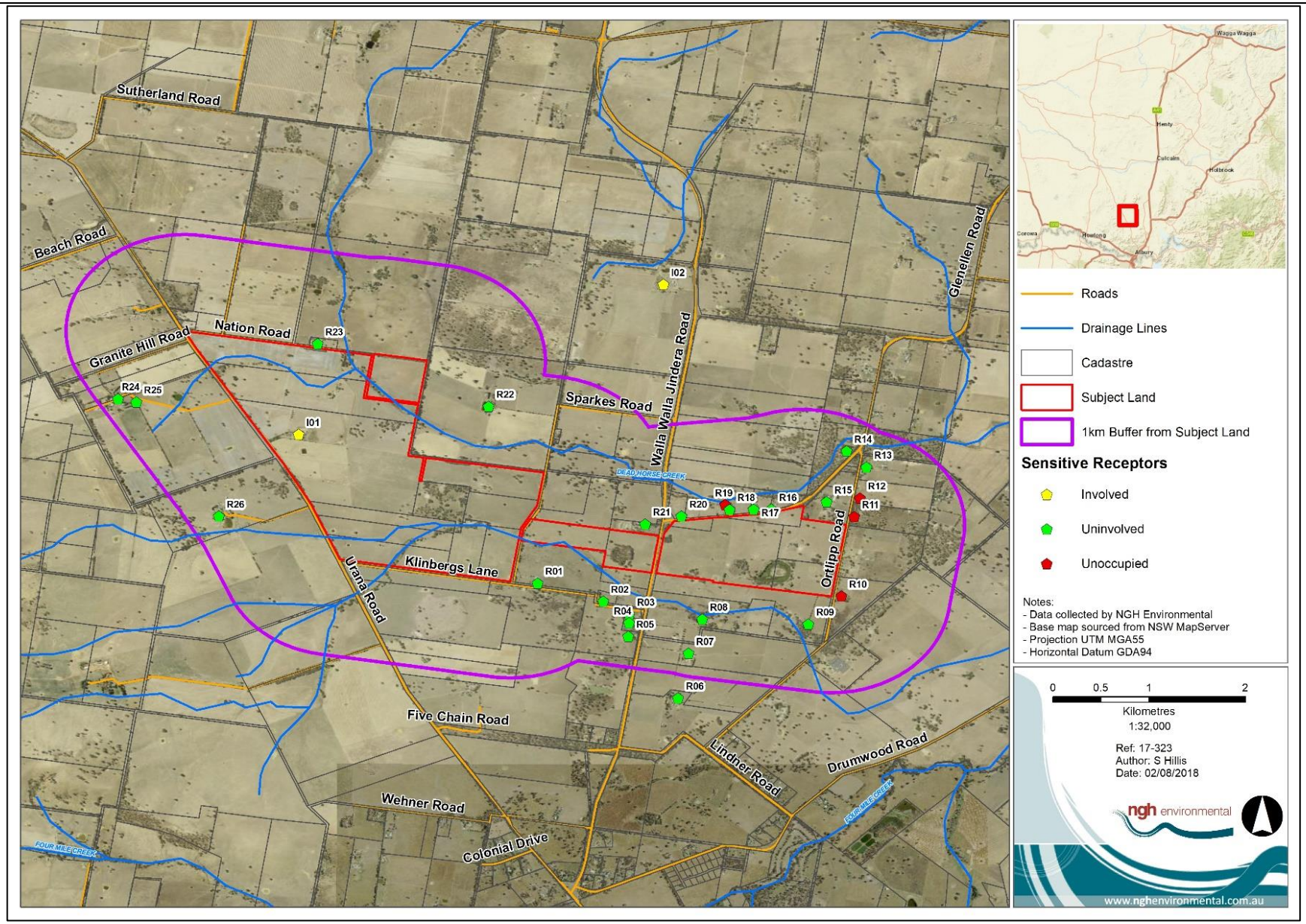

Figure 7-3 Sensitive Receivers within 1 km of the proposal area

7.2.5 Land use and resources

The rural land within the region is used primarily for agriculture including cropping and grazing. The development area comprises several large paddocks which have been deep ripped and largely cleared for pastures and grazing. Land and agricultural activities like those of the proposal area are widespread in the region. There is no evidence of horticulture or other intense farming activities within the proposal area.

The Mining, Petroleum, Production and Extractive Industries State Environmental Planning Policy 2007 (the Mining SEPP) extends across the proposal. The land is not classed as Biophysical Strategic Agricultural Land (BSAL) in the Mining SEPP Strategic Agricultural Land Map; BSAL has been described as land with high quality soil and water resources capable of sustaining high levels of productivity.

The land is classified as Class 3 and Class 6 under the Land and Soil Capability Assessment Scheme (OEH 2012) and is described as sloping land capable of sustaining cultivation on a rotational basis. The land is readily used for a range of crops and pastures. Class 3 land is considered High Capability Land: Land that has moderate limitations and is capable of sustaining high-impact land uses such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. Class 6 is considered Low Capability Land: Land that has very high limitations for high-impact land uses and is restricted to low-impact land uses such as grazing, forestry and nature conservation.

There is 1 mineral title and no mineral applications relevant to the proposal area indicated in the Minview database (DPE 2017). A mineral exploration licence (Title EL8467) occurs within the subject land and intersects Lot 90 DP 753342 (Figure 7-4). A Clause 13 Compatibility Test was requested from Geological Survey NSW on 3 August 2018.

For the construction period, there would be a complete reduction in agricultural activities within the development footprint. During the operational phase, not all agricultural activities would be precluded, and it is highly likely that limited production such as occasional grazing could continue. As such, it can be expected that the nature of the agricultural activities would change from cropping and grazing to predominately grazing within the proposal area. This would be further explored in the EIS.

The solar farm would be decommissioned at the end of its operational life, removing all above-ground infrastructure. It is expected that the land would be returned to its prior production uses, as solar farms typically do not have significant permanent impacts to soil and landform.

Overall, the adverse impacts related to alienation of resources are expected to be low and restricted only to the period of operation.

Further assessment

The impact on agricultural production in the locality and region would be assessed in detail in the EIS.

Figure 7-4 Exploration Licence on the development area

7.2.6 Watercourses and Hydrology

The proposal is located approximately 18 km north of the Murray River. Two ephemeral creek systems, Dead Horse Creek and Kilnacroft Creek, traverse the western side of the proposal. These two creeks are classified as 1st or 2nd order streams under the Strahler Stream Classification System (DPI 2018).

Both creeks are identified as Class 4 under the Waterway Classification System (DPI 2018). This is described as unlikely fish habitat, and/or as a named or unnamed waterway with intermittent flow following rain events only, little or no defined drainage channel, little or no flow or few standing water or pools after rainfall events (e.g. dry gullies or shallow floodplain depressions with no permanent aquatic flora present). However, development is not proposed within the creek lines, no riparian vegetation will be cleared, and a riparian vegetation zone buffer retained.

A large man-made dam/wetland also exists on the eastern portion of the development area. Development is not proposed in this area. As such, there is unlikely to be any impact to threatened aquatic systems in these areas. Smaller farm dams within the development footprint will, however, be removed.

Water demand for the proposal would be relatively small, as construction of the solar farm is not water intensive. Approval in principle has been granted from the Greater Hume Shire for use of a standpipe in Jindera for water extraction. No surface or groundwater extraction of water is required.

High potential for aquatic groundwater dependant ecosystems (GDE) is shown in the man-made dam/wetland on the eastern portion of the proposal, with a low to high potential for terrestrial GDE across the site (Figure 7-5). These areas are, however, located within proposed retained vegetation. As such, there is a low potential for groundwater to be encountered during excavations and earthwork for the construction. This is likely to be highly localised and no inception of groundwater is considered.

The proposal area is not identified as flood prone land under the Greater Hume LEP.

Potential Impacts

Impacts upon watercourses and hydrology that are considered as having the potential to occur during the construction of the proposal include:

- Removal of suitable aquatic habitat by filling in dams for threatened species.
- Accidental release of hydrocarbons by inappropriate storage, use and disposal of chemicals.
- Domestic waste, effluent and putrescibles causing contamination.
- Erosion of soil and sedimentation through stormwater runoff.
- Dewatering sediment laden water from excavations.

Further assessment

The EIS would assess the impacts to waterways during construction and operation and include appropriate mitigation measures as required.

7.3 OTHER ENVIRONMENTAL ISSUES

There are a range of potential environmental issues associated with the proposal which are not considered to be key issues. These are considered secondary issues for investigation, given the characteristics of the proposal and the availability of appropriate safeguards for mitigation. These issues are outlined in Table 7-3. The impacts and any required mitigation relating to these issues would be addressed at an appropriate level of detail in the EIS.

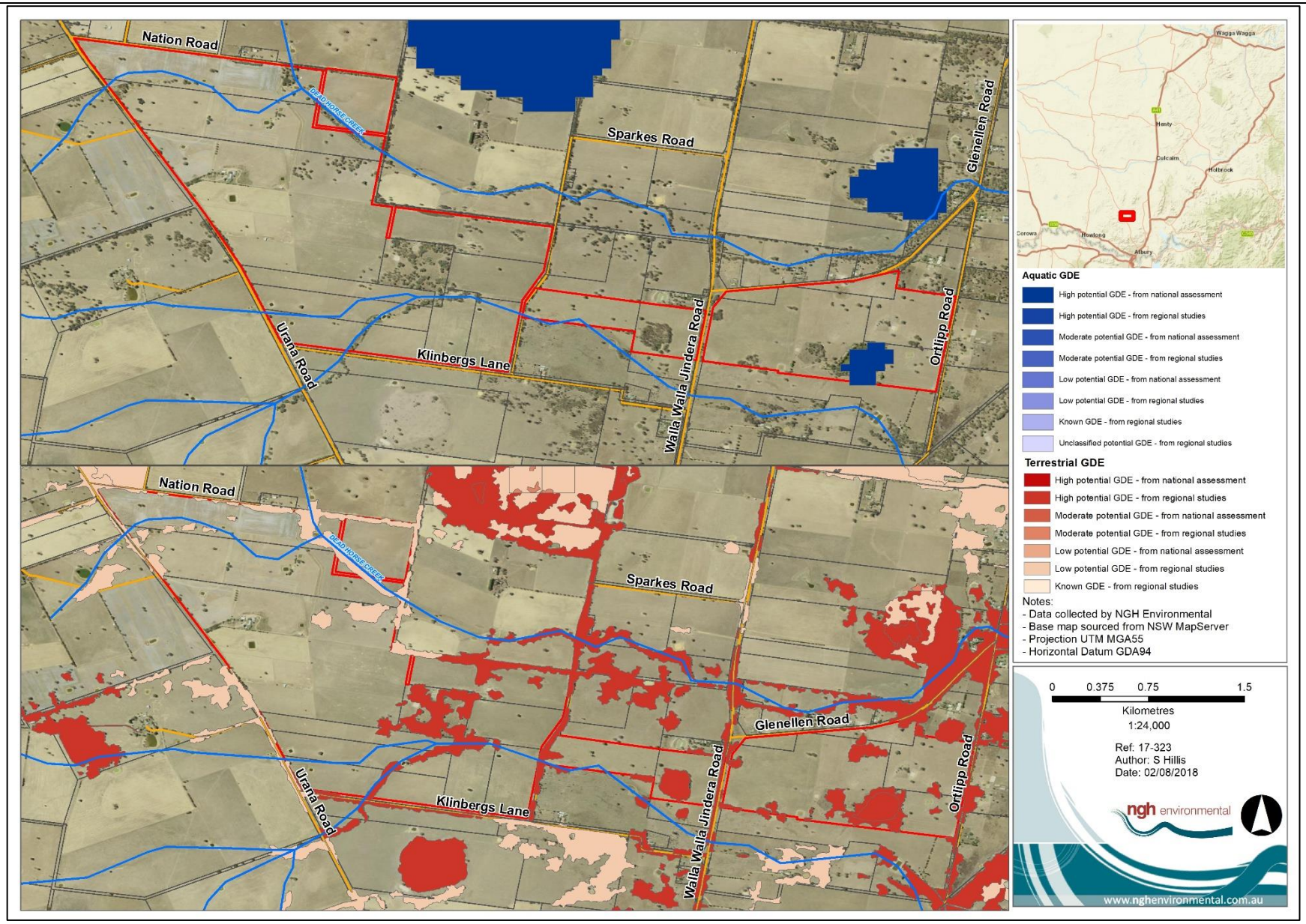

Figure 7-5 Groundwater Dependant Ecosystems

Table 7-3 Other environmental issues

Existing environment	Potential impacts	Management and mitigation
Soils		
An espade soil profile (OEH 2017) approximately 2.4 km south of the proposal records brown and yellow-brown soils with very low relief (<9m). Surface condition is firm, and erosion hazard is slight, with no salting evident. Soil types within the subject land are Chromosols and sodosols. Chromosols are soils that display a strong texture contrast between surface (A) horizons and subsoil (B) horizons with an abrupt increase in clay content down the soil profile. They usually occur in imperfectly drained sites and have moderate agricultural potential. They can be susceptible to soil acidification and erosion. Sodosols are mildly acidic soils; when these soils become saturated the clay particles become dispersed and result in cloudy water runoff. These soils are highly erodible and often form gully and tunnel erosion.	Construction activities would include minor excavations and vegetation removal which have the potential to cause soil erosion and sedimentation and dust issues.	The design would provide all weather access at the site during construction and operation to avoid erosion/sedimentation impacts and tracking of soil, in particular after rain events. The EIS would provide thorough consideration of soil impacts and proposed mitigation measures during construction and operation.
Historic heritage		
A search of the NSW heritage Register on 31 July 2018 for the Greater Hume LGA identified 4 items under the NSW Heritage Act, 61 items listed under the Greater Hume LEP and by state agencies, and 12 items on the Australian Heritage Database (Appendix B). The closest listed heritage item is the property "Westerndale", directly adjacent the west of the proposal, and Big Gum Swamp, 200 m north-west of the proposal.	There is considered to be a low risk of impact to heritage items.	The heritage status of the site would be assessed during fieldwork undertaken as part of the archaeological assessment. Appropriate management measures would be implemented if required.
Access and traffic		
The RMS NSW Combined Higher Mass Limits and Restricted Access Vehicle Map (RMS 2018) indicates Urana Road, Walla Walla Jindera Road and Glenellen Road to be approved heavy vehicle access routes (25/26 m B-double routes as a maximum) (Appendix B). As such, the major access and transport/haulage route from the south will be Urana Road, and Walla Walla Jindera Road from the north. The major transport route is subject to further assessment, specialist input and consultation with Greater Hume Shire.	Construction traffic could impact traffic along Urana Road, Wall Walla Jindera Road and Glenellen Road. Maintenance access tracks during operation would also be required across the development site.	Construction traffic impacts would be considered in the EIS. Consultation would be undertaken with the local council and local residents regarding the works that may affect roads or traffic.

Existing environment	Potential impacts	Management and mitigation
New site accesses will be constructed off Urana Road and Walla Walla Jindera Road (being the approved heavy vehicle access route), with proposed emergency and maintenance only access from Klinbergs Lane and Ortlipp Road (Figure 2-2 and Figure 2-3). Access design and location is indicative only, subject to further assessment and specialist input. Internal access tracks would be constructed as part of the works.	During construction, there may be impacts to residences along the access route associated with dust, vibration and noise.	The design would also consider any requirements from the Roads and Maritime Services (RMS), local council and other relevant stakeholders on access arrangements to the proposal site. The mitigation measures would require a Traffic Management Plan to be prepared.
Contamination		
The EPA contaminated land register identified no contaminated sites within the Greater Hume LGA (Appendix B). Contamination associated with agricultural activities (eg pesticides, petrochemicals) or asbestos construction or insulation materials may still be present on the site.	There is potential that contaminants may be uncovered during excavation activities at the site.	Risks associated with contamination at the site are considered low and therefore no detailed investigation is likely to be required within the EIS. The mitigation measures would require a CEMP to be prepared to manage any contamination identified during site construction.
Air quality		
The air quality in the study area is expected to be good and typical of rural settings in NSW with low population density and few industrial pollution sources. Existing sources of air pollution are expected to include vehicle emissions, dust from agricultural practices and smoke from seasonal stubble burning. During colder months, solid fuel heating may result in a localised reduction in air quality, particularly if temperature inversions operate overnight.	The construction of the proposal is not anticipated to have a significant impact on air quality and would mostly be related to dust during dry periods and vegetation removal. Impacts to air quality during operation would be negligible.	The mitigation measures would require a CEMP to be prepared to manage air quality impacts during the construction phase. There is an opportunity to improve local air quality by maintaining ground cover vegetation under the panels.

Existing environment	Potential impacts	Management and mitigation
Hazard and risk – electric and magnetic fields (EMF)		
Existing powerlines produce EMF at the site. Additional infrastructure which forms part of the proposal such as connecting powerlines and substation would produce additional electromagnetic emissions at the site.	The substation, battery storage and network connection would be located on the proposal site. The powerlines constructed as part of the proposal would not pass through any neighbouring properties. The EMF that would be generated by the proposed powerlines, battery storage and substation is expected to be below the guideline for public exposure and would not be expected to have an adverse impact on human health.	The EMF levels of the proposed powerlines, battery storage and substation would be assessed as part of the EIS.
Battery storage is currently not utilised on-site but has been proposed.	Batteries pose a potential fire or contamination risk to the site.	An assessment of hazard and risk would be assessed in the EIS
Hazard and risk - bushfire		
The development site has been predominantly cleared for agriculture. The property is identified as category 2 bushfire prone land in the Greater Hume Shire Council online mapping.	The proposal is unlikely to be affected by bushfire or pose a significant bushfire risk.	Bushfire impacts and risk would be assessed in the EIS. Risk of fire from proposed infrastructure will also be addressed in the EIS
Social and economic impacts		
The proposal is located within the Greater Hume LGA. In 2016 Greater Hume LGA had a population of 10,351. The main industry of employment in 2016 was Beef Cattle Farming. Workforce accommodation would be required for potentially 200 staff members during peak construction periods. A large majority of these would already reside locally. For visiting workers, accommodation can be sought from Jindera or other towns within a 100km radius, including Albury, Wodonga, Culcairn, and Henty.	The proposal would reduce the availability of agricultural land but would generate economic benefits during construction and operation, including local employment opportunities. Other socio-economic impacts would include traffic and access, noise, air quality and visual impacts.	The EIS would assess potential social and economic impacts of the proposal.

Existing environment	Potential impacts	Management and mitigation
Utilities		
Electricity network TransGrid manages and operates the high voltage electricity transmission network in NSW. TransGrid has restrictions on development within powerline easements. TransGrid guidelines state that activities and encroachments are prohibited within a transmission line easement, including 'the installation of fixed plant or equipment', and 'the placing of obstructions within 20 metres of any part of a transmission line structure or supporting guy wire'. Roads or tracks within 10 metres of the centre-line of a transmission line 132kV are prohibited although roads that cross the transmission line as a thoroughfare may be permitted.	The proposed works would involve works adjacent to these utilities. The solar farm will need to connect to the TransGrid electricity network.	The EIS would assess the proposal against the setback and approval requirements of TransGrid. The solar farm would be designed to comply with required setback, approval and consultation requirements of TransGrid.
Waste management		
The proposal would generate several waste streams and utilise a variety of materials during the construction phase.	During construction, excavated material and green waste would be generated as waste. Packaging from panels and other components would require disposal. Limited operational waste would be associated with the proposal.	A Waste Management Plan would be incorporated into the CEMP, applying the principles to avoid, re-use and recycle to minimise wastes. Cleared trees would be recycled as fauna habitat where possible.
Cumulative impacts		
The proposed Jindera Solar Farm will contribute to overall infrastructure development in the region. A review of the State Significant Development register for the Greater Hume LGA and surrounding LGAs of Albury City, Federation, Lockhart, Wagga Wagga and Snowy Valleys (bordering LGAs) was conducted on 01/08/2018. Four major solar farms developments have been applied for, including Culcairn, Mulwala, Gregadoo, and Bomen. A number of other State Significant Developments have been applied for within the surrounding LGAs, however only the Culcairn Solar Farm occurs in the Greater Hume LGA.	During construction and operation, key cumulative impacts may include additional stress on the grid, community complaints such as visual amenity impacts, stress on local business for supply and demand (in particular staff accommodation), noise impacts, air quality, waste management, traffic etc.	Early consultation with the community regarding cumulative impacts should be conducted. Further assessment/investigation of cumulative impacts will be required, and the EIS would assess potential impact and risk.

8 CONCLUSION

The Preliminary Environmental Assessment has outlined the proposed Jindera Solar Farm and established the environmental and planning context of the proposal. The proposal would be assessed under Part 4 of the EP&A Act and classed as State Significant Development under *State Environmental Planning Policy* (*State and Regional Development*) 2011.

The report has been prepared to assist the development of the SEARs for the proposal, which will guide the preparation of the EIS.

The report identifies the following key environmental issues associated with the proposal, based on the preliminary investigations:

- Biodiversity.
- Aboriginal Heritage.
- Visual amenity.
- Noise.
- Land use and resources.
- Watercourses and hydrology.

These uses will be assessed in detail in the EIS. It is likely that other issues such as soil values, traffic impacts and natural hazards can be readily addressed by appropriate standard mitigation and management measures. The relevance and importance of issues would be reviewed throughout the EIS process.

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APPENDIX A HABITAT TABLE

The tables in this appendix present the habitat evaluation for threatened species, ecological communities and endangered populations listed from the preliminary Biometric Assessment Methodology (BAM).

The likelihood of occurrence is based on presence of habitat, proximity of nearest records and mobility of the species (where relevant). The assessment of potential impact is based on the nature of the proposal, the ecology of the species and its likelihood of occurrence. The following classifications are used:

Presence of habitat:

Present: Potential or known habitat is present within the study area

Absent: No potential or known habitat is present within the study area

Likelihood of occurrence

Unlikely: Species known or predicted within the locality but unlikely to occur in the study area

Possible: Species could occur in the study area

Present: Species was recorded during the field investigations

Possible to be impacted

No: The proposal would not impact this species or its habitats. No further assessment would be necessary at this stage of the project.

Yes: The proposal could impact this species or its habitats. Further investigation into the likelihood and consequence of the impact of the proposal on these species would be considered under the BAM for the EIS.

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
Amphibromus fluitans Floating Swamp Wallaby Grass EPBC - V	A perennial grass to 0.8 m tall that spreads by both underground and above-ground stems. *Amphibromus fluitans* grows mostly in permanent swamps. The species needs wetlands which are at least moderately fertile and which have some bare ground, conditions which are produced by seasonally-fluctuating water levels. Habitats in south-western NSW include swamp margins in mud, dam and tank beds in hard clay and in semi-dry mud of lagoons with *Potamogeton* and *Chamaeraphis* species. Flowering time is from spring to autumn or November to March. *Amphibromus fluitans* appears to fruit later than the other grasses with which it grows. The flower heads remain almost hidden by the leaf sheaths until the seeds are nearly mature, and even then elongation of the stems is barely sufficient to expose the heads completely. Disturbance regimes are not known, although the species requires periodic flooding of its habitat to maintain wet conditions. Wetlands inhabited by this species that are converted to deep, permanent dams are unsuitable for continued habitation by this species. The species has shown a level of resistance to salinisation of habitat in experimental tests. Has been observed covering several hectares in area. The species is also recorded as occasional to common in populations.	**Present** Study area includes several dams with muddy margins.	**Possible** Species could occur in study area**.**	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Tylophora linearis Tylophora linearis BC - V	An herbaceous climber with clear latex that grows to about 2 m long. Known from eight localities in the Dubbo area and Mt Crow near Barraba in NSW, and "Myall Park" near Glenmorgan in Queensland. This species is conserved within Goobang National Park, Eura State Forest, Goonoo SF, Pilliga West SF and Coolbaggie Nature Reserve. Grows in dry scrub, open forest and woodlands associated with *Melaleuca uncinata*, *Eucalyptus fibrosa*, *E. sideroxylon*, *E. albens*, *Callitris endlicheri*, *C. glaucophylla*, *Allocasuarina luehmannii*, *Acacia hakeoides*, *A. lineata*, *Myoporum* spp., and *Casuarina* spp. The distribution of this species overlaps with the following EPBC Act-listed threatened ecological	**Present** Study area includes open woodland communities including Blakely's Red Gum and Yellow Box.	**Unlikely** Understory highly disturbed and heavily grazed.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	communities: Brigalow (*Acacia harpophylla* dominant and co-dominant), and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. Flowers in spring, with flowers recorded in November or May with fruiting probably 2 to 3 months later.			
Austrostipa wakoolica A spear-grass BC - E	A densely-tufted, perennial spear-grass, growing to 1 m tall. Confined to the floodplains of the Murray River tributaries of central-western and south-western NSW, with localities including Manna State Forest, Matong, Lake Tooim, Merran Creek, Tulla, Cunninyeuk and Mairjimmy State Forest. Grows on floodplains of the Murray River tributaries, in open woodland on grey, silty clay or sandy loam soils; habitats include the edges of a lignum swamp with box and mallee; creek banks in grey, silty clay; mallee and lignum sandy-loam flat; open Cypress Pine forest on low sandy range; and a low, rocky rise. Associated species include *Callitris glaucophylla, Eucalyptus microcarpa, E. populnea, Austrostipa eremophila, A. drummondii, Austrodanthonia eriantha* and *Einadia nutans*. Flowers from October to December, mainly in response to rain. Seed dispersal is mainly by wind, rain and flood events; the awn and sharp point of the floret appear to be an adaptation for burying the seed into the soil; grass seed is traditionally believed to be viable for three to five years, so a long-lived seed bank is considered unlikely for this species. Recorded as common in the Mairjimmy State Forest population.	**Absent** No lignum swamp with box and mallee; creek banks in grey, silty clay; mallee and lignum sandy-loam flat; open Cypress Pine forest or associated species in study area.	**Unlikely** Species unlikely to occur as there is no suitable habitat and no known distributions in study area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Swainsona sericea Silky Swainson-pea BC - V	A prostrate or erect perennial, growing to 10 cm tall. Silky Swainson-pea has been recorded from the Northern Tablelands to the Southern Tablelands and further inland on the slopes and plains. There is one isolated record from the far north-west of NSW. Its stronghold is on the Monaro. Also found in South Australia, Victoria and Queensland. Found in Natural Temperate Grassland and Snow Gum *Eucalyptus pauciflora* Woodland on the Monaro. Found in Box-Gum Woodland in the Southern Tablelands and South West Slopes. Sometimes	**Present** Box-Gum Woodland present in study area.	**Possible** Species could occur in study area**.**	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	found in association with cypress-pines *Callitris* spp. Habitat on plains is unknown. Regenerates from seed after fire. Flowers spring to summer.			preparation of the EIS.
Cullen parvum Small Scurf-pea BC - E	The Small Scurf-pea is a small perennial pea that may either trail or stand erect. Known in NSW from only two herbarium collections; one from Wagga Wagga in 1884 and the other from Jindera (near Albury) in 1967. A small population was recently reported near Jerilderie (although it has not been relocated). In recent years, two populations have been recorded in travelling stock reserves south-west of Wagga Wagga, and a population reputedly exists on a roadside near Galong. Large populations have been recorded in grassy gaps in the Red Gum Woodlands of Barmah State Park, just across the border in Victoria. Extensive suitable habitat probably occurs across the border in NSW. In known populations in Victoria and NSW, plants are found in grassland, River Red Gum (*Eucalyptus camaldulensis*) Woodland and even grazing country and table drains, in areas with rainfall of between 450 and 700 mm. Plants often occur near watercourses. Plants tend to die back in dry seasons and resprout with rain in winter or spring; in dry years, plants apparently do not always produce shoots but survive below the ground. Flooding has been suggested as a mechanism for seed dispersal.	**Present** River Red Gum and watercourses present in study area.	**Possible** Species could occur in study area**.**	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Senecio garlandii Woolly Ragwort BC - V	An erect perennial herb or subshrub growing to 2 m high but generally around 1 m high. Almost entirely known from the western slopes of the Great Dividing Range in southern NSW. In NSW known from a very localised strip from West Wyalong to the Albury district, in the Central Western Slopes and South Western Slopes regions. The site of greatest abundance appears to be The Rock NR, over 340 ha, about 30 km SE of Wagga Wagga. Has also been collected at Tabletop Range, a site "15 miles ESE of The Rock", Gidginbung, "near Albury", Flowerpot Hill (4 km S of The Rock NR), Ulandra NR (7 km SE of Bethungra), Benambra SF (20 km W of Holbrook), Burrinjuck and near Temora.	**Absent** Proposal area does not occur in lower or upper slopes of rocky outcrops.	**Unlikely** Species unlikely to occur as there is no suitable habitat and no known distributions in study area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Occurs in dry sclerophyll forest and open woodland in association with *Eucalyptus macrorhyncha, E. goniocalyx, Acacia doratoxylon, A. implexa* and *Brachychiton populneus*. Grows on the sheltered lower slopes or upper parts of south to east-facing slopes of isolated rocky outcrops. Primarily flowers in spring in NSW.			
Diuris tricolor Pine Donkey Orchid BC-V	The Pine Donkey Orchid (formerly known as *Diuris sheaffiana*) is a terrestrial species that has a flower stalk 20-40 cm high. It is sporadically distributed on the western slopes of NSW, extending from south of Narrandera all the way to the far north of NSW. Localities include the Condobolin-Nymagee road, Wattamondara towards Cowra, Cooyal, Adelong, Red Hill north of Narrandera, Coolamon, near Darlington Point, Eugowra, Girilambone, Dubbo, Muswellbrook, and several sites west of Wagga Wagga. Disturbance regimes are not known, although the species is usually recorded from disturbed habitats. Associated species include *Callitris glaucophylla, Eucalyptus populnea, Eucalyptus intertexta*, Ironbark and *Acacia* shrubland. The understorey is often grassy with herbaceous plants such as *Bulbine* species. Flowers from September to November or generally spring. The species is a tuberous, deciduous terrestrial orchid and the flowers have a pleasant, light sweet scent. It is found in sandy soils, either on flats or small rises. Also recorded from a red earth soil in a Bimble Box community in western NSW.	**Absent** No associated species identified in study area.	**Unlikely** Species unlikely to occur as there is no suitable habitat and no known distributions in study area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Caladenia arenaria Sand-hill Spider Orchid BC-E	Sand-hill Spider Orchid is from a group of orchids characterised by five long, spreading petals and sepals around a broad down-curled labellum ('lip'). Found mostly on the south west plains and western south west slopes. The original description is of a plant from Nangus, west of Gundagai (1865) and there is a report of the species from Adelong near Tumut. A record near Cootamundra needs verifying. In 1996 the species was found on private property near Urana, and surveys in 1998, 1999 and 2000 have revealed three other populations in	**Absent** No woodland with sandy soils in study area.	**Unlikely** Species unlikely to occur as there is no suitable habitat and no known	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	State Forest in the Riverina (Lonesome Pine SF, Buckingbong SF, Yattanjerry SF). The Sand-hill Spider Orchid is currently only known to occur in the Riverina between Urana and Narranderra. Occurs in woodland with sandy soil, especially that dominated by White Cypress Pine (*Callitris glaucophylla*). Many of the associated species in the understorey are different at each of the populations, or are species that are widespread and occur in a range of habitats. It is apparent that *C. arenaria* has fairly broad habitat tolerances, occurring in *Callitris glaucophylla - Eucalyptus melliodora* (Yellow Box) woodlands, *Callitris glaucophylla – Allocasuarina luehmannii* woodlands and woodlands dominated by a mixture of *Callitris glaucophylla, E. dwyeri* (Dwyer's Redgum) and *Acacia doratoxylon* (Currawang).		distributions in study area	preparation of the EIS
Acacia ausfeldii Ausfeld's Wattle BC - V	*Acacia ausfeldii* is an erect or spreading shrub 2 - 4 m high with branchlets angled or flattened, resinous and smooth. Found to the east of Dubbo in the Mudgee, Ulan - Gulgong area of the NSW South Western Slopes bioregion, with some records in the adjoining Brigalow Belt South, South Eastern Highlands and the Sydney Basin bioregions. Populations are recorded from Yarrobil National Park, Goodiman State Conservation Area and there is a 1963 record from Munghorn Gap Nature Reserve. A large population is also known from Tuckland State Forest to the northwest of Gulgong. Established plants are likely to be killed by fire, as mature and juvenile plants have a single-stemmed growth form. Associated species include *Eucalyptus albens, E. blakelyi* and *Callitris* spp., with an understorey dominated by *Cassinia* spp. and grasses. *Acacia ausfeldii* is likely to have a dormant soil seedbank from which germination is stimulated by fire; a small number of seeds have been observed to germinate in the absence of fire.	**Absent** Understorey within the study area is highly exotic, only associated species identified in study area is *E. blakelyi*.	**Unlikely** Species unlikely to occur as there is no suitable habitat, no known distributions in study area and limited associated species were identified.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Brachyscome muelleroides	The Claypan Daisy is an annual herb that grows to 14 cm tall. Occurs in the Wagga Wagga, Narranderra, Tocumwal and Walbundrie areas. Also occurs in	**Present**	**Possible**	The possibility of impact on this

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
Claypan Daisy BC - V	north-central Victoria (only along the Murray from Tocumwal to the Ovens River). Only five sites have precise locality details, and four of these are on Morundah Station in NSW. Occurs in seasonally damp situations such as shallow depressions and around the margins of swamps, lagoons and claypans, on heavy grey cracking clays to lighter clay loam soils, in grassland, grassy woodland and open forest habitats, growing in association with various grasses and seasonal aquatic plants such as *Marsilea* species. Associated species include *Pycnosorus globosus, Agrostis avenacea, Austrodanthonia duttoniana*, and *Calotis anthemoides*. Victorian collections have generally come from open positions on the Murray River floodplain, swampy River Red Gum (*Eucalyptus camaldulensis*) Forest and damp depressions. Flowers September to October.	Associated habitat present within study area	Species could occur in study area**.**	species as a result of the proposal would be further investigated during the preparation of the EIS
Leptorhynchos orientalis Lanky Buttons BC - E	An erect annual forb to 30 cm high. Recorded from several Hay Plain and southern Riverina localities, including Willanthry east of Hillston, Zara-Wanganella via Hay, McKinley Road SW of Hillston, and "Morundah" navy land west of Buckingbong SF. A large population has most recently been recorded from Cowl Cowl Station SSW of Hillston along a TSR. Grows in woodland or grassland, sometimes on the margins of swamps. Communities include a Bimble Box plain in red-brown soil, dense *Acacia pendula* woodland with herbaceous understorey on red clay to clay-loam, open grassland areas on red soils, and red clay plains at the edge of a Canegrass swamp. Associated species include *Eucalyptus populnea subsp. bimbil, Acacia pendula, Eragrostis australasica, Lepidium monoplocoides, Enchylaena tomentosa, Minuria leptophylla, Rhodanthe floribunda*, *R. pygmaea* and *Ptilotus spathulatus*. Flowers in late winter (August) and spring (October). Recorded as rare and locally occasional in populations.	**Absent** No associated species present within study area	**Unlikely** No Suitable habitat present within study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Brachyscome papillosa	The Mossgiel Daisy is a multi-stemmed, perennial herb that grows to 40 centimetres tall. Occurs chiefly from Mossgiel to Urana, in south-western NSW,	**Absent**	**Unlikely**	The possibility of impact on this

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
Mossgiel Daisy BC - V	with sites in the Jerilderie area, the Hay Plain, Willandra Lakes district and north to Ivanhoe. A north-western outlier is at Byrnedale Station, north of Menindee. The only known site on South Western Slopes is Ganmain Reserve. The distribution of this species overlaps with the following EPBC Act-listed threatened ecological communities: Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions, and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. Recorded primarily in clay soils on Bladder Saltbush (*Atriplex vesicaria*) and *Maireana aphylla* plains, but also in grassland and in Grey Box (*Eucalyptus microcarpa*) - Cypress Pine (*Callitris* spp.) woodland. Flowers from June to December. Recorded as locally occasional to common in populations.	No associated species present within study area	No Suitable habitat present within study area.	species as a result of the proposal would be further investigated during the preparation of the EIS
Swainsona murrayana Slender Darling Pea BC - V	An ascending to erect perennial forb growing to 25 cm high. Occurs from South Australia through south-west Victoria and central NSW to south-east Queensland. Found throughout NSW, it has been recorded in the Jerilderie and Deniliquin areas of the southern riverine plain, the Hay plain as far north as Willandra National Park, near Broken Hill and in various localities between Dubbo and Moree. Found in grassland, herbland, and open Black-box woodland, often in depressions. Has been collected from clay-based soils, ranging from grey, red and brown cracking clays to red-brown earths and loams. Grows in a variety of vegetation types including bladder saltbush, black box and grassland communities on level plains, floodplains and depressions and is often found with Maireana species. Plants have been found in remnant native grasslands or grassy woodlands that have been intermittently grazed or cultivated. Plants produce winter-spring growth, flower in spring to early summer and then die back after flowering. They re-shoot readily and often carpet the landscape after good cool-season rains. The species may require some disturbance and has been known to occur in paddocks that have been	**Absent** No associated species present within study area	**Unlikely** No Suitable habitat present within study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	moderately grazed or occasionally cultivated.It is often associated with low chenopod shrubs (*Maireana* spp.), wallaby-grass (*Austrodanthonia* spp), and spear grass (*Austrostipa* spp.).			
Eleocharis obicis Spike-Rush BC - V	This small sedge is a tufted perennial with very short underground stem. Found near Condobolin and Hay, as well as being known from an old collection from the Barrier Range near Broken Hill. The later collection was made on the Lachlan River floodplain at Micabil, near Condobolin. Grows in ephemerally wet situations such as roadside mitre drains and depressions, usually in low-lying grasslands. Sites include depressions with heavy clay soils on the Lachlan River floodplain, with *Eragrostis australasica, Atriplex vesicaria and A. nummularia* shrublands, low-lying claypans near an irrigation channel, and a shallow open ditch on a low ridge with *Eucalyptus populnea* in red sandy soil over clay. Recorded as flowering in November. Found to be locally frequent to abundant in western NSW populations. The distribution of this species overlaps with the "Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions" EPBC Act-listed threatened ecological community.	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Lepidium aschersonii Spiny Peppercress BC - V	An erect perennial herb to 30 cm high. Not widespread, occurring in the marginal central-western slopes and north-western plains regions of NSW (and potentially the south western plains). A recent survey has located several populations at Narrabri, from where the species had last been recorded in 1899. Also known from the West Wyalong, Barmedman and Temora areas, although most records are old. Approximately 50% of the total *Lepidium aschersonii* recorded for Australia occurs in NSW. Found on ridges of gilgai clays dominated by Brigalow (*Acacia harpophylla*), with *Austrodanthonia* and/or *Austrostipa* species in the understorey. The species grows as a component of the ground flora, in grey loamy clays. Vegetation structure varies from open to dense Brigalow, with sparse grassy understorey and	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	occasional heavy litter. Flowers from spring to autumn. Populations have been known to immediately disappear following inundation by flooding, reappearing several seasons later. An apparent increase in numbers during drought conditions has also been observed. The species is reported to be salt tolerant and also grows well under dry conditions. Recorded population sizes vary from 10 to 2000+ plants. Plant numbers decrease with increasing overstorey density, and plants were not found where the Brigalow canopy cover exceeded about 60%. The species is often described as a "weed" where it dominates paddocks.			
Lepidium monoplocoides Winged Pepeprcress BC - E	An erect annual herb or perennial forb, 15-20 cm high. Widespread in the semi-arid western plains regions of NSW. Collected from widely scattered localities, with large numbers of historical records but few recent collections. There is a single collection from Broken Hill and only two collections since 1915, the most recent being 1950. Also previously recorded from Bourke, Cobar, Urana, Lake Cargelligo, Balranald, Wanganella and Deniliquin. Recorded more recently from the Hay Plain, south-eastern Riverina, and from near Pooncarie. Occurs predominantly in mallee scrub in semi-arid areas, but is also known from riparian woodland. Occurs on seasonally moist to waterlogged sites, on heavy fertile soils, with a mean annual rainfall of around 300-500 mm. Predominant vegetation is usually an open woodland dominated by *Allocasuarina luehmannii* (Bulloak) and/or eucalypts, particularly *Eucalyptus largiflorens* (Black Box) or *Eucalyptus populnea* (Poplar Box). The field layer of the surrounding woodland is dominated by tussock grasses. Recorded in a wetland-grassland community comprising *Eragrostis australasicus, Agrostis avenacea, Austrodanthonia duttoniana, Homopholis proluta, Myriophyllum crispatum, Utricularia dichotoma* and *Pycnosorus globosus*, on waterlogged grey-brown clay. Also recorded from a *Maireana pyramidata* shrubland.	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area and study area heavily grazed.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Flowers from late winter to spring, or August to October. The species is highly dependent on seasonal conditions. Does not tolerate grazing disturbance.			
Diuris sp. Oaklands Diuris BC - E	Currently known only from the Oaklands-Urana region of southern NSW. Grows in White Cypress Pine (*Callitris glaucophylla*) Woodland, either among dense grasses in flat areas with associated eucalypts, or amongst sparse grasses and forbs on low sandhills. Grows mostly on sandy loam soils. There are thought to be 6-7 populations of *Diuris* sp. Occurs in a largely agricultural area with some plants occurring on a roadside, and no population is protected in a formal conservation reserve. Flowers in November (but does not flower every year).	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area and study area heavily grazed.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Kippistia suaedifolia Fleshy Minuria BC - E	Strongly aromatic, hairless, compact subshrub to 60 cm high. Recorded from several collections near Conoble in the Ivanhoe district. This locality is an open-cast gypsum mine (Marlow Gypsum Mine), located 22 km north of Conoble railway siding. Also reported from the Scotia mapsheet area in far south-western NSW. Grows around saline lakes and depressions, often in association with gypsum. Rare in NSW, recorded only from a restricted area on a loamy and highly gypseous soil. Flowers from August to October, mostly from September to November. In the field, *Kippistia suaedifolia* forms bushy, dome-shaped aromatic dwarf shrubs, with strongly scented leaves. Plants are usually common to abundant in populations.	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area and study area heavily grazed.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Grevillea ilicifolia subsp. Ilicifolia Holly-leafed Grevillea BC - CE	Spreading to prostrate shrub, 0.3–2 m high. Occurs, or has occurred, at highly disjunct localities in the central west and central south of the State. The only population confirmed as extant occurs at Round Hill Nature Reserve north-west of Lake Cargelligo. Until recently the taxon also occurred in the Griffith area where the last known plant of that population, at Nericon, died in 2008. A single unvouchered observational report exists of *Grevillea ilicifolia* having	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area	The possibility of impact on this species as a result of the proposal would be further investigated

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	occurred also in the West Wyalong area as late as the early 1970s. Has been recorded from shrubby mallee communities. At Round Hill Nature Reserve near Lake Cargelligo, it occurs in red sandy soil in a mallee association of *Eucalyptus socialis*, *E. leptophylla*, and *Callitris verrucosa*, with a shrubby understorey of *Acacia montana*, *Dodonaea viscosa* subsp. *cuneata*, *Triodia* sp., *Prostanthera serpyllifolia*, *Santalum* sp., *Myoporum* sp., and *Phebalium squamulosum.* Probably flowers from September to November.		and study area heavily grazed.	during the preparation of the EIS
Wilsonia rotundifolia Round-leafed Wilsonia BC - E	A prostrate, perennial plant with succulent leaves. It is salt tolerant and occurs in coastal saltmarshes and inland saline sites. Known from several sites in the Jervis Bay area, Royal National Park, near Deniliquin and on the lakebeds of Lake George and Lake Bathurst. The Lake George and Lake Bathurst populations appear to be locally extensive. The coastal populations occur at Lake Wollumboola, Swan Lake, Meringo Lagoon and Lake Coila. The total number of plants in coastal sites is only a few hundred. It occurs in mid marsh, mixed with *Sporobolus virginicus* and *Sarcocornia quinqueflora*. Also found in Western Australia, South Australia and Victoria. Grows in mud in coastal saltmarsh and inland saline or brackish lake beds. In undisturbed habitat, it can be a good coloniser as the creeping stems root from the nodes. Flowers appear mainly in spring and summer.	**Absent** No associated vegetation types present within study area	**Unlikely** No Suitable habitat present within study area and study area heavily grazed.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Prasophyllum validum Sturdy Leek-orchid EPBC - V	The Sturdy Leek-orchid Prasophyllum validum is a tall, slender, deciduous terrestrial orchid endemic to south-eastern Australia, where it occurs in Victoria and South Australia. Little is known of the ecology or biology of the species, although it seems to prefer relatively dry woodland habitats. Currently 18 populations containing about 3,200 plants are known. There is no information on previous distribution or abundance, although substantial areas of woodland habitats have been cleared. Current threats include grazing by introduced and native herbivores and habitat disturbance and destruction. The	**Present** Dry Woodland habitats present within study area	**Unlikely** Species unlikely to occur as study area is heavy grazed.	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Sturdy Leek-orchid is listed as Vulnerable under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, as Threatened under the Victorian Flora and Fauna Guarantee Act 1988, and Vulnerable under the South Australian National Parks and Wildlife Act 1972. This national Recovery Plan for the Sturdy Leek-orchid is the first prepared for the species and details its distribution, habitat, threats and recovery objectives and actions necessary to ensure its long-term survival.			preparation of the EIS
Swainsona recta Small Purple-pea EPBC E	A slender, erect perennial plant with few stems 20 - 30 cm high. The range of *S. recta* has contracted to two disjunct clusters in NSW, one between Wellington and Mudgee, and the other from Canberra and Queanbeyan south to Williamsdale. The largest known population has about 3,400 plants, scattered along 22 km of narrow railway easement in NSW from Tralee (south of Queanbeyan) to south of Williamsdale. Occurs in grassland and open woodland, often on stony hillsides, dominated by one or more of the following: *Callitris endichleri, C. glaucophylla*, *Eucalyptus blakelyi, E. bridgesiana*, *E. dives*, *E. melliodora, E. microcarpa, E. nortonii and E. polyanthemos.* Requires a forb-rich grassy groundlayer dominated by *Themeda triandra, Poa sieberiana* var. *sieberiana or Austrostipa* spp. Resprouts in autumn and winter from a woody root. It flowers in spring, peaking over two to three weeks in October.	**Marginal** Associated Yellow Box and Blakely's Red Gum present in study area. However understory degraded and heavily grazed.	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Pilularia novae-hollandiae Austral Pillwort BC – E	A semi-aquatic fern, resembling a small fine grass. In NSW, Austral Pilwort has been recorded from suburban Sydney, Khancoban, the Riverina between Albury and Urana (including Henty, Walbundrie, Balldale and Howlong), Oolambeyan National Park near Carathool and at Lake Cowal near West Wyalong. The populations at Lake Cowal and Oolambeyan NP are the only known extant populations in NSW, although the species is obscure and has possibly been overlooked elsewhere. The species has also been recorded in the Australian Capital Territory, Victoria, Tasmania, South Australia and Western	**Present** Drying muds around dams occurs within the study area.	**Possible** Within species distribution	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Australia. Most of the records in the Albury-Urana area were from table drains on the sides of roads. The ACT record was from a subalpine grassy plain. This species is probably ephemeral (especially in the drier parts of its range), appearing when soils are moistened by rain. Grows in shallow swamps and waterways, often among grasses and sedges. It is most often recorded in drying mud as this is when it is most conspicuous.			preparation of the EIS
Prasophyllum petilum Tarengo Leek Orchid EPBC - E	Each plant produces a solitary, tubular, fleshy, dull green leaf, growing to 35 cm tall. Grows in patchy woodland in fertile soils. Grows in open sites within Natural Temperate Grassland at the Boorowa and Delegate sites. Also grows in grassy woodland in association with River Tussock *Poa labillardieri* Black Gum *Eucalyptus aggregata* and tea-trees *Leptospermum* spp. at Captains Flat and within the grassy groundlayer dominated by Kanagroo Grass under Box-Gum Woodland at Ilford (and Hall, ACT). Apparently highly susceptible to grazing, being retained only at little-grazed travelling stock reserves (Boorowa & Delegate) and in cemeteries (Captains Flat, Ilford and Hall). Population density at the Boorowa site is higher in the open grassland dominated by wallaby grasses *Austrodanthonia* spp., compared to that within the denser stands of Kangaroo Grass *Themeda australis*. Co-occurring species include *Pentapogon quadrifidus, Schoenus apogon, Drosera peltata, Sebaea ovata* and *Haloragis heterophylla.*	**Absent** No associated species within the development area	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions BC – E	Tall woodland or open forest dominated by Fuzzy Box *Eucalyptus conica*, often with Grey Box *Eucalyptus microcarpa*, Yellow Box *Eucalyptus melliodora*, or Kurrajong *Brachychiton populneus*. Buloke *Allocasuarina luehmannii* is common in places. Shrubs are generally sparse, and the groundcover moderately dense, although this will vary with season. Found on alluvial soils of the South West Slopes, Brigalow Belt South and Darling Riverine Plains Bioregions. Mainly found in the Dubbo-Narromine-Parkes-Forbes area.	**Absent** Study area is not in its known distribution.	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Community occurs on brown loam or clay, alluvial or colluvial soils on prior streams and abandoned channels or slight depressions on undulating plains or flats of the western slopes. Community often occurs upslope from River Red Gum communities above frequently inundated areas of the floodplain. It also occurs on colluvium soils on lower slopes and valley flats. Less than 5% of the original extent is estimated to remain. Shrubs include Wilga, Deane's Wattle, Hop Bush, Cassia, Water Bush and Sifton Bush.			preparation of the EIS
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia EPBC- E	Predominantly occurs on the drier edge of the temperate grassy eucalypt woodland belt and ranges from central New South Wales through northern and central Victoria into South Australia. Relatively less well studied and understood in comparison with other grassy woodland systems in south-eastern Australia. The ecological community also occupies a complex position in the landscape. For example, in NSW it can be transitional between the temperate lower slopes and tablelands occupied by, e.g. the EPBC Act-listed *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* ecological community, and the semi-arid floodplain communities. Generally occurs in landscapes of low-relief such as flat to undulating plains, low slopes and rises and, to a lesser extent, drainage depressions and flats. The ecological community may extend to more elevated hillslopes on the fringes of its range where it intergrades with other woodland or dry sclerophyll forest communities. often occurs on productive soils derived from alluvial or colluvial materials but may occur on a range of substrates. Soils include: duplex soils; red-brown earths; gradational soils; non-calceric and calceric browns with variable textures including sandy clay loam, clay loam, sandy loam, loam, heavy clay; and loams with quartzite surface stones and rocky outcroppings in the Mount Lofty Ranges. Gilgai topography may be present. The ecological community tends to occupy drier sites within the belt of grassy woodlands in	**Present** Study area includes semi-arid floodplain communities on landscapes of low-relief	**Unlikely** Vegetation community was not identified during the field survey.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	south-eastern Australia (Prober and Thiele, 1993). The mean annual rainfall associated with the distribution of the ecological community lies in the range 375-700 mm/year. The typical structure of ecological community is a woodland to open forest with a canopy dominated by eucalypts and an understorey with a moderately dense to sparse shrub layer and a ground layer of perennial and annual native forbs and graminoids. Tussock grasses dominate the ground layer vegetation, though other graminoids or forbs may be common. Chenopods also may be present in the ground layer. The tree canopy is dominated (≥ 50% canopy crown cover) by *Eucalyptus microcarpa* (Grey Box). Widespread associated tree species that may be present include: *Allocasuarina luehmannii* (Buloke), *Brachychiton populneus* (Kurrajong), *Callitris glaucophylla* (White Cypress Pine), *Eucalyptus albens* (White Box), *E. camaldulensis* (River Red Gum), *E. conica* (Fuzzy Box), *E. leucoxylon* (Yellow Gum, SA Blue Gum), *E. melliodora* (Yellow Box) and *E. populnea* (Bimble Box, Poplar Box). The ground layer also is highly variable in development and composition, ranging from almost absent to mostly grassy to forb-rich. Ground layer flora commonly present include one or more of the graminoid genera: *Austrodanthonia*, *Austrostipa*, *Elymus*, *Enteropogon*, *Dianella* and *Lomandra*; and one or more of the chenopod genera: *Atriplex*, *Chenopodium*, *Einadia*, *Enchylaena*, *Maireana*, *Salsola* and *Sclerolaena.* Derived grasslands are a special state of the ecological community, whereby the canopy and mid layers have been mostly removed to <10% crown cover but the native ground layer remains largely intact, with 50% or more of the total vegetation cover being native.			
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar	Includes those woodlands in which the most characteristic tree species, *Eucalyptus microcarpa* (Inland Grey Box), is often found in association with *E. populnea* subsp. *bimbil* (Bimble or Poplar Box), *Callitris glaucophylla* (White Cypress Pine), *Brachychiton populneus* (Kurrajong), *Allocasuarina luehmannii* (Bulloak) or *E. melliodora* (Yellow Box), and sometimes with *E. albens* (White	**Present** Study area includes semi-arid floodplain	**Unlikely** Vegetation community was not identified	The possibility of impact on this species as a result of the proposal

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
Peneplain, Nandewar and Brigalow Belt South Bioregions BC - EEC	Box). Shrubs are typically sparse or absent, although this component can be diverse and may be locally common, especially in drier western portions of the community. A variable ground layer of grass and herbaceous species is present at most sites. At severely disturbed sites the ground layer may be absent. The community generally occurs as an open woodland 15–25 m tall but in some locations the overstorey may be absent as a result of past clearing or thinning, leaving only an understorey. Generally occurs in landscapes of low-relief such as flat to undulating plains, low slopes and rises and, to a lesser extent, drainage depressions and flats. Tends to occupy drier sites within the belt of grassy woodlands in south-eastern Australia. Inland Grey Box Woodland occurs predominately within the Riverina and South West Slopes regions of NSW down to the Victorian border. It includes Albury to the east and may extend out west towards Hay. This community also extends across the slopes and plains in Central and Northern NSW up to the Queensland Border. This includes Yetman and Inverell in the North, Molong to the east of the Central Slopes and plains and out towards Nymagee to the west. Occurs on fertile soils of the western slopes and plains of NSW. The community generally occurs where average rainfall is 375- 800 mm pa and the mean maximum annual temperature is 22-26°C. There is a correlation between the distribution of *Eucalyptus microcarpa* communities and soils of Tertiary and Quaternary alluvial origin, largely corresponding with the Red Brown Earths. The majority of remnant patches of Inland Grey Box Woodland survive with trees largely intact but with the shrub or ground layers degraded to varying degrees through grazing or pasture modification. Some species that are part of the community appear intolerant to heavy grazing by domestic stock and are confined to the least disturbed remnants.	communities on landscapes of low-relief	during the field survey.	would be further investigated during the preparation of the EIS
Myall Woodland in the Darling Riverine Plains, Brigalow Belt	Scattered across the eastern parts of the alluvial plains of the Murray-Darling river system. Typically, it occurs on red-brown earths and heavy textured grey and brown alluvial soils within a climatic belt receiving between 375 and 500	**Present** Study area includes semi-arid	**Unlikely** Vegetation community was	The possibility of impact on this species as a result

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions BC - EEC	mm mean annual rainfall. The structure of the community varies from low woodland and low open woodland to low sparse woodland or open shrubland, depending on site quality and disturbance history. The tree layer grows up to a height of about 10 metres and invariably includes *Acacia pendula* (Weeping Myall or Boree) as one of the dominant species or the only tree species present. The understorey includes an open layer of chenopod shrubs and other woody plant species and an open to continuous groundcover of grasses and herbs. The structure and composition of the community varies, particularly with latitude, as chenopod shrubs are more prominent south of the Lachlan River district, while other woody species and summer grasses are more common further north. In some areas the shrub and canopy stratum may have been reduced or eliminated by clearing or heavy grazing, leaving derived grassland that may still constitute this community. This EEC is known from parts of the Local Government Areas of Berrigan, Bland, Bogan, Carrathool, Conargo, Coolamon, Coonamble, Corowa, Forbes, Gilgandra, Griffith, Gwydir, Inverell, Jerilderee, Lachlan, Leeton, Lockhart, Moree Plains, Murray, Murrumbidgee, Narrabri, Narranderra, Narromine, Parkes, Urana, Wagga Wagga and Warren, and but may occur elsewhere in these bioregions.	floodplain communities on landscapes of low-relief	not identified during the field survey.	of the proposal would be further investigated during the preparation of the EIS
Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions BC - EEC	Sandhill Pine Woodland is characterised by an open tree stratum, which may be reduced to isolated individuals or may be absent as a result of past clearing. The tree layer is dominated by *Callitris glaucophylla* (White Cypress Pine), either in pure stands or with a range of other less abundant trees or tall shrubs. The groundcover is highly variable in structure and composition. Has been recorded in the far south-western portion of the NSW South Western Slopes bioregion near Urana, extending through the Riverina bioregion, from the Urana – Narranderra district in the east, into the southern part of the Murray-Darling Depression bioregion, as far west as the South Australian	**Present** Study area includes semi-arid floodplain communities on landscapes of low-relief	**Unlikely** Vegetation community was not identified during the field survey.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	border. In the Riverina bioregion and the far south-western portion of the NSW South Western Slopes bioregion, the community is typically associated with prior streams and aeolian source-bordering dunes, which are scattered within an extensive alluvial clay plain dominated by chenopod shrublands. Sandhill Pine Woodland typically occupies red-brown loamy sands with alkaline sub-soils on the alluvial plain of the Murray River and its tributaries, and on parts of the sandplain in south-western NSW.			
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland EEC BC CE EPBC (PMST)	Characterised by the presence or prior occurrence of White Box, Yellow Box and/or Blakely's Red Gum. The trees may occur as pure stands, mixtures of the three species or in mixtures with other trees, including wattles. Commonly co-occurring eucalypts include Apple Box (*E. bridgesiana*), Red Box (*E. polyanthemos*), Candlebark (*E. rubida*), Snow Gum (*E. pauciflora*), Argyle Apple (*E. cinerea*), Brittle Gum (*E. mannifera*), Red Stringybark (*E. macrorhyncha*), Grey Box (*E. microcarpa*), Cabbage Gum (*E. amplifolia*) and others. The understorey in intact sites is characterised by native grasses and a high diversity of herbs; the most commonly encountered include Kangaroo Grass (*Themeda australis*), Poa Tussock (*Poa sieberiana*), wallaby grasses (*Austrodanthonia* spp.), spear-grasses (*Austrostipa* spp.), Common Everlasting (*Chrysocephalum apiculatum*), Scrambled Eggs (*Goodenia pinnatifida*), Small St John's Wort (*Hypericum gramineum*), Narrow-leafed New Holland Daisy (*Vittadinia muelleri*) and blue-bells (*Wahlenbergia* spp.). Shrubs are generally sparse or absent, though they may be locally common. Remnants generally occur on fertile lower parts of the landscape where resources such as water and nutrients are abundant.	**Present** Yellow Box and Blakely's Red Gum identified in study area	**Present** Species characteristic were present however the groundcover was predominantly exotic.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Sites with particular characteristics, including varying age classes in the trees, patches of regrowth, old trees with hollows and fallen timber on the ground are very important as wildlife habitat. Sites in the lowest parts of the landscape often support very large trees which have leafy crowns and reliable nectar flows - sites important for insectivorous and nectar feeding birds. Sites that retain only a grassy groundlayer and with few or no trees remaining are important for rehabilitation, and to rebuild connections between sites of better quality. Remnants support many species of threatened fauna and flora. Retention of remnants is important as they contribute to productive farming systems (stock shelter, seed sources, sustainable grazing and water-table and salinity control). The fauna of remnants (insectivorous birds, bats, etc) can contribute to insect control on grazing properties. Some of the component species (e.g. wattles, she-oaks, native legumes) fix nitrogen that is made available to other species in the community, while fallen timber and leaves recycle their nutrients. Disturbed remnants are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration.			
Weeping Myall Woodland	The Weeping Myall Woodlands occurs on the inland alluvial plains west of the Great Dividing Range in NSW and Queensland, with one small outlying patch in northern Victoria. It occurs in the Riverina, NSW South Western Slopes, Darling Riverine Plains, Brigalow Belt South, Brigalow Belt North, Murray-Darling Depression, Nandewar and Cobar Peneplain IBRA Bioregions. Occurs in a range from open woodlands to woodlands, generally 4-12 m high, in which Weeping Myall (*Acacia pendula*) trees are the sole or dominant overstorey species.	**Absent** Study area is not in its known distribution.	**Unlikely** Ecological community unlikely to occur as there is no suitable habitat in	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence Of habitat	Likelihood Of occurrence	Potential Impact
Flora				
	Other common names for Weeping Myall include Myall, Boree, Balaar, Nilyah, Bastard Gidgee, and Silver Leaf Boree. Weeping Myall trees often occur in monotypic stands, however other vegetation may also occur in the ecological community, though not as dominant species. These include: Western Rosewood (*Alectryon oleifolius* subsp. *elongatus*); Poplar Box (*Eucalyptus populnea*); or Black Box (*Eucalyptus largiflorens*). Grey Mistletoe (*Amyema quandang*) commonly occurs on the branches of Weeping Myall trees throughout the ecological community's range. The understorey of Weeping Myall Woodlands often includes an open layer of shrubs above an open ground layer of grasses and herbs, though the ecological community can exist naturally either as a shrubby or a grassy woodland. Generally occur on flat areas, shallow depressions or gilgais on raised (relict) alluvial plains. These areas are not associated with active drainage channels and are rarely if ever flooded. The ecological community occurs on black, brown, red-brown or grey clay or clay loam soils. The Weeping Myall Woodlands provide important habitat for a range of animals such as the Superb Parrot (*Polytelis swainsonii*), Painted Honeyeater (*Grantiella picta*) and the Bush Stone-curlew (*Burhinus grallarius*).		study area, and species characteristic of the community were not recorded in study area.	preparation of the EIS

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Fauna				
Aves				
Anthochaera phrygia Regent Honeyeater BC - CE	A semi-nomadic species occurring in temperate eucalypt woodlands and open forests. Most records are from box-ironbark eucalypt forest associations and wet lowland coastal forests (NPWS, 1999 177 /id)(Pizzey, 1997). A semi-nomadic species occurring in temperate eucalypt woodlands and open forests.	**Absent** No temperate eucalypt	**Unlikely**	The possibility of impact on this species as a result of the proposal

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
EPBC – CE	Most records are from box-ironbark eucalypt forest associations and wet lowland coastal forests (NPWS, 1999 177 /id)(Pizzey, 1997).	woodlands with box-ironbark eucalypt.	Species unlikely to occur in study area.	would be further investigated during the preparation of the EIS.
Artamus cyanopterus cyanopterus Dusky Woodswallow BC – V	The dusky woodswallow are widespread in eastern, southern and south western Australia. The species occurs throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs on the western slopes of the Great Dividing Range. The species primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland. Most breeding activity occurs on the western slopes of the Great Dividing Range.	**Present** Open eucalypt woodland present	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Botaurus poiciloptilus Australasian Bittern EPBC - E	In NSW, this species occurs along the coast and is frequently recorded in the Murray-Darling Basin, notably in floodplain wetlands of the Murrumbidgee, Lachlan, Macquarie and Gwydir Rivers. Occurs in permanent freshwater wetlands with tall, dense vegetation. Favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and/or reeds (e.g. *Phragmites, Cyperus, Eleocharis, Juncus, Typha, Baumea, , Bolboschoenus*) or cutting grass (*Gahnia*) growing over muddy or peaty substrate. Hides during the day amongst dense reeds or rushes and feed mainly at night on frogs, fish, yabbies, spiders, insects and snails. Feeding platforms may be constructed over deeper water from reeds trampled by the bird; platforms are often littered with prey remains. Breeding occurs in summer from October to January; nests are built in secluded places in densely-vegetated wetlands on a platform of reeds; there are usually six olive-brown eggs to a clutch. In Australia, the Bittern occurs with the Australian Painted Snipe *Rostratula benghalensis australis.*	**Absent** No permanent freshwater wetlands with dense vegetation.	**Unlikely** Species unlikely to occur in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Callocephalon fimbriatum Gang-gang Cockatoo BC – V	The Gang-gang Cockatoo is distributed from southern Victoria through south- and central-eastern New South Wales. In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. It is rare at the extremities of its range, with isolated records known from as far north as Coffs Harbour and as far west as Mudgee. In summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In winter, may occur at lower altitudes in drier more open eucalypt forests and woodlands, and often found in urban areas. Favours old growth attributes for nesting and roosting.	**Absent** No heavily timbered and mature wet sclerophyll forests in study area	**Unlikely** Species unlikely to occur in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Calidris ferruginea Curlew Sandpiper EPBC - CE	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Curlew Sandpipers generally roost on bare dry shingle, shell or sand beaches, sandspits and islets in or around coastal or near-coastal lagoons and other wetlands, occasionally roosting in dunes during very high tides and sometimes in saltmarsh. This species does not breed in Australia. This species forages mainly on invertebrates, including worms, molluscs, crustaceans, and insects, as well as seeds.	**Present** Dams with muddy edges occur in study area	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Chthonicola sagittata Speckled Warbler BC – V	The Speckled Warbler has a patchy distribution throughout south-eastern Queensland, the eastern half of NSW and into Victoria, as far west as the Grampians. The species is most frequently reported from the hills and tablelands of the Great Dividing Range, and rarely from the coast. There has been a decline in population density throughout its range, with the decline exceeding 40% where no vegetation remnants larger than 100ha survive. The Speckled Warbler lives in a wide range of Eucalyptus dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer,	**Absent** No vegetation communities with rocky ridges or gullies in study area.	**Unlikely** Species unlikely to occur in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	some eucalypt regrowth and an open canopy. Large, relatively undisturbed remnants are required for the species to persist in an area.			
Climacteris picumnus victoriae Brown Tree Creeper (Eastern Species) BC – V	The Brown Treecreeper is endemic to eastern Australia and occurs in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. It is less commonly found on coastal plains and ranges. The western boundary of the range of *Climacteris picumnus victoriae* runs approximately through Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell and along this line the subspecies intergrades with the arid zone subspecies of Brown Treecreeper *Climacteris picumnus picumnus* which then occupies the remaining parts of the state. The eastern subspecies lives in eastern NSW in eucalypt woodlands through central NSW and in coastal areas with drier open woodlands such as the Snowy River Valley, Cumberland Plains, Hunter Valley and parts of the Richmond and Clarence Valleys. Declines have occurred in remnant vegetation fragments smaller than 300 hectares that have been isolated or fragmented for more than 50 years. Mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and River Red Gum (Eucalyptus camaldulensis) Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses.	**Present** Eucalypt woodland within study area.	**Possible** Habitat for this species is present in the proposal area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Daphoenositta chrysoptera Varied Sittella BC – V	The Varied Sittella is sedentary and inhabits most of mainland Australia except the treeless deserts and open grasslands, with a nearly continuous distribution in NSW from the coast to the far west. It inhabits eucalypt forests and woodlands, especially rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland. The Varied Sittella feeds on arthropods gleaned from crevices in rough or decorticating bark, dead branches, standing dead trees, and from small branches and twigs in the tree canopy. It builds a cup-shaped nest of plant fibres and cobweb in an upright tree fork high in the living tree canopy, and often re-uses the same fork or tree in successive years.	**Present** Eucalypt woodland within study area.	**Possible** Habitat for this species is present in the proposal area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Hieraaetus morphnoides Little Eagle	The Little Eagle is a medium-sized bird of prey that is found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. It occurs as a single population throughout NSW. Occupies	**Present**	**Possible** Habitat for this species is present	The possibility of impact on this species as a result

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
BC – V	open eucalypt forest, woodland or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. Lays two or three eggs during spring, and young fledge in early summer. Preys on birds, reptiles and mammals, occasionally adding large insects and carrion.	Open eucalypt woodland within study area	in the proposal area	of the proposal would be further investigated during the preparation of the EIS.
Lophoictinia isura Square-tailed Kite BC - V	The Square-tailed Kite ranges along coastal and subcoastal areas from south-western to northern Australia, Queensland, NSW and Victoria. In NSW, scattered records of the species throughout the state indicate that the species is a regular resident in the north, north-east and along the major west-flowing river systems. It is a summer breeding migrant to the south-east, including the NSW south coast, arriving in September and leaving by March. Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses. In arid north-western NSW, has been observed in stony country with a ground cover of chenopods and grasses, open acacia scrub and patches of low open eucalypt woodland.	**Absent** No timbered watercourses in study area.	**Unlikely** Species unlikely to occur in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Melanodryas cucullata cucullata Hooded Robin (south-eastern form) BC - V	The Hooded Robin is common in few places, and rarely found on the coast. It is considered a sedentary species, but local seasonal movements are possible. The south-eastern form is found from Brisbane to Adelaide throughout much of inland NSW, with the exception of the north-west. The species is widespread, found across Australia, except for the driest deserts and the wetter coastal areas - northern and eastern coastal Queensland and Tasmania. Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses. Often perches on low dead stumps and fallen timber or on low-hanging branches, using a perch-and-pounce method of hunting insect prey. Territories range from around 10 ha during the breeding season, to 30 ha in the non-breeding season.	**Present** Open eucalypt woodland within study area	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Petroica boodang Scarlet Robin BC – V	The Scarlet Robin is found from SE Queensland to SE South Australia and also in Tasmania and SW Western Australia. In NSW, it occurs from the coast to the inland slopes. After breeding, some Scarlet Robins disperse to the lower valleys	**Absent** Open eucalypt woodland is	**Unlikely**	The possibility of impact on this species as a result

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	and plains of the tablelands and slopes. Some birds may appear as far west as the eastern edges of the inland plains in autumn and winter. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. This species lives in both mature and regrowth vegetation. It occasionally occurs in mallee or wet forest communities, or in wetlands and tea-tree swamps. Scarlet Robin habitat usually contains abundant logs and fallen timber: these are important components of its habitat. The Scarlet Robin breeds on ridges, hills and foothills of the western slopes, the Great Dividing Range and eastern coastal regions; this species is occasionally found up to 1000 metres in altitude. The Scarlet Robin is primarily a resident in forests and woodlands, but some adults and young birds disperse to more open habitats after breeding. In autumn and winter many Scarlet Robins live in open grassy woodlands, and grasslands or grazed paddocks with scattered trees.	present in the study area, however there is minimal logs and fallen timber which are important habitat features for this species.	Species unlikely to occur in study area as no suitable habitat	of the proposal would be further investigated during the preparation of the EIS**.**
Petroica phoenicea Flame Robin BC – V	The Flame Robin is endemic to SE Australia, and ranges from near the Queensland border to SE South Australia and also in Tasmania. In NSW, it breeds in upland areas and in winter, many birds move to the inland slopes and plains. It is likely that there are two separate populations in NSW, one in the Northern Tablelands, and another ranging from the Central to Southern Tablelands. Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys. The groundlayer of the breeding habitat is dominated by native grasses and the shrub layer may be either sparse or dense. In winter, birds migrate to drier more open habitats in the lowlands (i.e. valleys below the ranges, and to the western slopes and plains).	**Present** Open eucalypt woodland and dry open habitats within the study area	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Polytelis swainsonii Superb Parrot EPBC - V BC - V	The Superb Parrot is found throughout eastern inland NSW. On the South-western Slopes their core breeding area is roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west. Birds breeding in this region are mainly absent during winter, when they migrate north to the region of the upper Namoi and Gwydir Rivers. Inhabits Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest.	**Present** Box-Gum Woodlands within study area	**Unlikely** Outside species known distribution	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
				preparation of the EIS**.**
Rostratula australis Australian Painted Snipe EPBC - E	Little is known of the ecology, habitat requirements and reproductive biology of Australian Painted Snipe. They feed in shallow water or at the waters' edge and on mudflats, taking seeds and invertebrates such as insects, worms, molluscs and crustaceans. Most records of Australian Painted Snipe are from temporary or infrequently filled freshwater wetlands and although they have occurred at many sites, no site can be identified in which they are resident or regular in occurrence. This may suggest the species is nomadic but the extent to which its cryptic behaviour may contribute to this belief is uncertain. The birds are able to remain hidden in rank vegetation, but many reports are of birds not being secretive, but rather still and unobtrusive. Primarily occurs along the east coast from north Queensland (excluding Cape York) to the Eyre Peninsula in South Australia, including the majority of Victoria and NSW. In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Inhabits inland and coastal shallow freshwater wetlands. The species occurs in both ephemeral and permanent wetlands, particularly where there is a cover of vegetation, including grasses, Lignum and Samphire. Individuals have also been known to use artificial habitats, such as sewage ponds, dams and waterlogged grassland. Nests on the ground amongst tall vegetation, such as grass tussocks or reeds. Forages nocturnally on mud flats and in shallow water. Breeding is often in response to local conditions; generally occurs from September to December.	**Present** Damns with aquatic vegetation and muddy margins present in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Stagonopleura guttata Diamond Firetail BC – V	The Diamond Firetail is widely distributed in NSW, with a concentration of records from the Northern, Central and Southern Tablelands, the Northern, Central and South Western Slopes and the North West Plains and Riverina. Not commonly found in coastal districts, though there are records from near Sydney, the Hunter Valley and the Bega Valley. This species has a scattered distribution over the rest of NSW. Also found in the Australian Capital Territory, Queensland, Victoria and South Australia. Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Eucalyptus pauciflora Woodlands. Also occurs in open forest, mallee, Natural Temperate	**Present** Open Box-Gum Woodland in study area with riparian areas.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season).			
Calyptorhynchus lathami Glossy Black-Cockatoo BC – V BC – Endangered population	The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW, with a small population in the Riverina. An isolated population exists on Kangaroo Island, South Australia. Dependent on large hollow-bearing eucalypts for nest sites. One or two eggs are laid between March and August. Inhabits open forest and woodlands of the coast and the Great Dividing Range up to 1000 m in which stands of she-oak species, particularly Black She-oak (*Allocasuarina littoralis*), Forest She-oak (*A. torulosa*) or Drooping She-oak (*A. verticillata*) occur. In the Riverina area, inhabits open woodlands dominated by Belah (*Casuarina cristata*). Feeds almost exclusively on the seeds of several species of she-oak (Casuarina and Allocasuarina species), shredding the cones with the massive bill.	**Absent** Open eucalypt woodland present, however there is no large hollow-bearing eucalypts in study area**.**	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Circus assimilis Spotted Harrier BC – V	The Spotted Harrier occurs throughout the Australian mainland, except in densly forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands. Builds a stick nest in a tree and lays eggs in spring (or sometimes autumn), with young remaining in the nest for several months. Preys on terrestrial mammals (eg bandicoots, bettongs, and rodents), birds and reptile, occasionally insects and rarely carrion.	**Present** Open agricultural land with inland wetlands in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Epthianura albifrons White-fronted Chat	The White-fronted Chat is found in damp open habitats, particularly wetlands containing saltmarsh areas that are bordered by open grasslands or lightly timbered lands (Higgins *et al.* 2001). Along the coastline, White-fronted Chats	**Absent** No open grassy plains with salt-	**Unlikely**	The possibility of impact on this species as a result

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
BC – V	are found in estuarine and marshy grounds with vegetation less than 1 m tall. The species is also observed in open grasslands and sometimes in low shrubs bordering wetland areas. Inland, the White-fronted Chat is often observed in open grassy plains, saltlakes and saltpans that are along the margins of rivers and waterways (North 1904; Higgins *et al.* 2001; Barrett *et al.* 2003). The species is sensitive to human disturbance and is not found in built areas (Jenner 2008).	lakes and saltpans in study area	Species unlikely to occur in study area due to no suitable habitat.	of the proposal would be further investigated during the preparation of the EIS**.**
Falco subniger Black Falcon BC – V	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. The species occurs as solitary individuals, in pairs, or in family groups of parents and offspring. The Black Falcon is known or predicted to occur in the sub-regions of the NSW South Western Slopes	**Present** Open eucalypt woodland in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Grantiella picta Painted Honeyeater BC – V EPBC – V	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus *Amyema*. Insects and nectar from mistletoe or eucalypts are occasionally eaten. Nest from spring to autumn in a small, delicate nest hanging within the outer canopy of drooping eucalypts, she-oak, paperbark or mistletoe branches**.**	**Present** Open Box-Gum Woodland in study area**.**	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Lathamus discolour Swift Parrot EPBC - CE	Breeds in Tasmania during spring and summer, migrating in the autumn and winter months to south-eastern Australia from Victoria and the eastern parts of South Australia to south-east Queensland. In NSW mostly occurs on the coast and south west slopes. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering	**Present** Open Box-Gum woodland in stuy area, however no favoured fee tree	**Unlikely** Species unlikely to occur in study area	The possibility of impact on this species as a result of the proposal would be further investigated

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	species such as Swamp Mahogany *Eucalyptus robusta*, Spotted Gum *Corymbia maculata*, Red Bloodwood *C. gummifera*, Mugga Ironbark *E. sideroxylon*, and White Box *E. albens*. Commonly used lerp infested trees include Grey Box *E. microcarpa*, Grey Box *E. moluccana* and Blackbutt *E. pilularis*. Return to home foraging sites on a cyclic basis depending on food availability.	species are present.	due to no favoured feed tree species.	during the preparation of the EIS**.**
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew EPBC - CE	The Eastern Curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. The Eastern Curlew mainly forages on soft sheltered intertidal sandflats or mudflats, open and without vegetation or covered with seagrass, often near mangroves, on saltflats and in saltmarsh, rockpools and among rubble on coral reefs, and on ocean beaches near the tideline. The Eastern Curlew roosts on sandy spits and islets, especially on dry beach sand near the high-water mark, and among coastal vegetation including low saltmarsh or mangroves. It occasionally roosts on reef-flats, in the shallow water of lagoons and other near-coastal wetlands.	**Absent** No coastal environments in study area	**Unlikely** Outside species known distribution	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Neophema pulchella Turquoise Parrot BC – V	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Usually seen in pairs or small, possibly family, groups and have also been reported in flocks of up to thirty individuals. Prefers to feed in the shade of a tree and spends most of the day on the ground searching for the seeds or grasses and herbaceous plants, or browsing on vegetable matter. Forages quietly and may be quite tolerant of disturbance. However, if flushed it will fly to a nearby tree and then return to the ground to browse as soon as the danger has passed. Nests in tree hollows, logs or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.	**Present** Open eucalypt woodland with adjoining cleared farmland and creeks in study area	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Ninox connivens Barking Owl BC – V	Inhabits eucalypt woodland, open forest, swamp woodlands and, especially in inland areas, timber along watercourses. Denser vegetation is used occasionally for roosting. During the day they roost along creek lines, usually in tall understorey trees with dense foliage such as *Acacia* and *Casuarina* species, or the dense clumps of canopy leaves in large *Eucalypts*. Feeds on a variety of	**Present** Open eucalypt woodland in study area with timbered creeks.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	prey, with invertebrates predominant for most of the year, and birds and mammals such as smaller gliders, possums, rodents and rabbits becoming important during breeding. Live alone or in pairs. Territories range from 30 to 200 hectares and birds are present all year. Three eggs are laid in nests in hollows of large, old eucalypts including River Red Gum (*Eucalyptus camaldulensis*), White Box (*Eucalyptus albens*), (Red Box) *Eucalyptus polyanthemos* and Blakely's Red Gum (*Eucalyptus blakelyi*). Breeding occurs during late winter and early spring.			investigated during the preparation of the EIS.
Oxyura australis Blue-billed Duck BC – V	The Blue-billed Duck is endemic to south-eastern and south-western Australia. It is widespread in NSW, but most common in the southern Murray-Darling Basin area. Birds disperse during the breeding season to deep swamps up to 300 km away. It is generally only during summer or in drier years that they are seen in coastal areas. The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. The species is completely aquatic, swimming low in the water along the edge of dense cover. It will fly if disturbed, but prefers to dive if approached. Blue-billed Ducks will feed by day far from the shore, particularly if dense cover is available in the central parts of the wetland. They feed on the bottom of swamps eating seeds, buds, stems, leaves, fruit and small aquatic insects such as the larvae of midges, caddisflies and dragonflies Blue-billed Ducks are partly migratory, with short-distance movements between breeding swamps and overwintering lakes with some long-distance dispersal to breed during spring and early summer. Blue-billed Ducks usually nest solitarily in Cumbungi over deep water between September and February. They will also nest in trampled vegetation in Lignum, sedges or Spike-rushes, where a bowl-shaped nest is constructed. Young birds disperse in April-May from their breeding swamps in inland NSW to non-breeding areas on the Murray River system and coastal lakes.	**Absent** No deep water permanent wetlands or swamps with dense vegetation in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Hamirostra melanosternon Black-breasted Buzzard	The Black-breasted Buzzard is found sparsely in areas of less than 500mm rainfall, from north-western NSW and north-eastern South Australia to the east coast at about Rockhampton, then across northern Australia south almost to Perth, avoiding only the Western Australian deserts. Lives in a range of inland habitats, especially along timbered watercourses which is the preferred	**Present** Open eucalypt woodland in	**Possible**	The possibility of impact on this species as a result of the proposal would be further

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
BC - V	breeding habitat. Also hunts over grasslands and sparsely timbered woodlands. Not a powerful hunter, despite its size, mostly taking reptiles, small mammals, birds, including nestlings, and carrion. Also specialises in feeding on large eggs, including those of emus, which it cracks on a rock. Breeds from August to October near water in a tall tree. The stick nest is large and flat and lined with green leaves. Normally two eggs are laid.	study area with timbered creeks.	Habitat for this species is present in the proposal are	investigated during the preparation of the EIS.
Melithreptus gularis gularis Black-chinned Honeyeater BC - V	The subspecies is widespread, from the tablelands and western slopes of the Great Dividing Range to the north-west and central-west plains and the Riverina. It is rarely recorded east of the Great Dividing Range, although regularly observed from the Richmond River district. It has also been recorded at a few scattered sites in the Hunter, Central Coast and Illawarra regions. Occupies mostly upper levels of drier open forests or woodlands dominated by box and ironbark eucalypts, especially Mugga Ironbark (*Eucalyptus sideroxylon*), White Box (*Eucalyptus albens*), Grey Box (*Eucalyptus microcarpa*), Yellow Box (*Eucalyptus melliodora*) and Forest Red Gum (*Eucalyptus tereticornis*). Also inhabits open forests of smooth-barked gums, stringybarks, ironbarks and tea-trees. A gregarious species usually seen in pairs and small groups of up to 12 birds. Feeding territories are large making the species locally nomadic. Recent studies have found that the Black-chinned Honeyeater tends to occur in the largest woodland patches in the landscape as birds forage over large home ranges of at least 5 hectares. Moves quickly from tree to tree, foraging rapidly along outer twigs, underside of branches and trunks, probing for insects	**Present** Open eucalypt woodland with Yellow Box in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Limosa limosa Black-tailed Godwit BC - V	Primarily a coastal species. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps. Individuals have been recorded in wet fields and sewerage treatment works. Forages for insects, crustaceans, molluscs, worms, larvae, spiders, fish eggs, frog eggs and tadpoles in soft mud or shallow water. Roosts and loafs on low banks of mud, sand and shell bars. Frequently recorded in mixed flocks with Bar-tailed Godwits.	**Absent** No coastal areas or mudflats in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Grus rubicunda Brolga BC - V	The Brolga was formerly found across Australia, except for the south-east corner, Tasmania and the south-western third of the country. It still abundant in the northern tropics, but very sparse across the southern part of its range. Though Brolgas often feed in dry grassland or ploughed paddocks or even desert claypans, they are dependent on wetlands too, especially shallow swamps, where they will forage with their head entirely submerged. They feed using their heavy straight bill as a 'crowbar' to probe the ground or turn it over, primarily on sedge roots and tubers. They will also take large insects, crustaceans, molluscs and frogs. The nest comprises a platform of grasses and sticks, augmented with mud, on an island or in the water. Two eggs are laid from winter to autumn.	**Absent** No shallow swamps in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Burhinus grallarius Bush Stone-curlew BC - E	The Bush Stone-curlew is found throughout Australia except for the central southern coast and inland, the far south-east corner, and Tasmania. Only in northern Australia is it still common however and in the south-east it is either rare or extinct throughout its former range. Inhabits open forests and woodlands with a sparse grassy groundlayer and fallen timber. Largely nocturnal, being especially active on moonlit nights. Feed on insects and small vertebrates, such as frogs, lizards and snakes. Nest on the ground in a scrape or small bare patch. Two eggs are laid in spring and early summer.	**Present** Open eucalypt woodland with sparse understory in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Stictonetta naevosa Freckled Duck BC - V	The Freckled Duck is found primarily in south-eastern and south-western Australia, occurring as a vagrant elsewhere. It breeds in large temporary swamps created by floods in the Bulloo and Lake Eyre basins and the Murray-Darling system, particularly along the Paroo and Lachlan Rivers, and other rivers within the Riverina. The duck is forced to disperse during extensive inland droughts when wetlands in the Murray River basin provide important habitat. The species may also occur as far as coastal NSW and Victoria during such times. Prefer permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. The largest numbers of Freckled Ducks occur in brackish to hyposaline wetlands that are densely vegetated with Lignum. During drier times they move from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds. Generally rest in dense cover during the day, usually in deep water.	**Absent** No permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree in study area	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	Feed at dawn and dusk and at night on algae, seeds and vegetative parts of aquatic grasses and sedges and small invertebrates. Nesting usually occurs between October and December but can take place at other times when conditions are favourable. Nests are usually located in dense vegetation at or near water level.			
Pachycephala inornata Gilbert's Whistler BC - V	The Gilbert's Whistler is sparsely distributed over much of the arid and semi-arid zone of inland southern Australia, from the western slopes of NSW to the Western Australian wheatbelt. The eastern population extends from the central NSW mallee (Yathong, Nombinnie and Round Hill NRs), south and east through the Cocoparra Range to Pomingalama Reserve (near Wagga Wagga) then north through the South West Slopes east as far as Cowra and Burrendong Dam, to the Goonoo reserves (with scattered records as far north as Pilliga). The north western limits of this population are poorly known, with records from as far west as Cobar and recent records from Quanda NR, though records further west may be due to confusion with the Golden Whistler. In a number of reserves in this area there have been no recent records (last records from Pulletop NR 1982, Pomingalama Reserve 1995 and Ingalba NR 1999) and this species may be locally extinct. Occasional records are also made of this species in the Capertee Valley. The species is also recorded in River Red Gum forests along the Murray River valley between Mathoura and Wentworth, with the eastern populations (between Mathoura and Barham) apparently isolated from other NSW populations. West of Swan Hill this population may interact with populations found to the north of the Murray River west of Balranald and as far north as the Scotia country (Tarawi NR and Scotia Sanctuary). The Gilbert's Whistler occurs in a range of habitats within NSW, though the shared feature appears to be a dense shrub layer. It is widely recorded in mallee shrublands, but also occurs in box-ironbark woodlands, Cypress Pine and Belah woodlands and River Red Gum forests, though at this stage it is only known to use this habitat along the Murray, Edwards and Wakool Rivers. Within the mallee the species is often found in association with an understorey of spinifex and low shrubs including wattles, hakeas, sennas and hop-bushes. In woodland habitats, the understorey comprises dense patches of shrubs, particularly thickets of regrowth *Callitris* pine. Parasitic 'cherries' (*Exocarpus* species) appear to be an important habitat component in Belah and Red Gum	**Absent** No dense shrubland in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	communities, though in the latter case other dense shrubs, such as Lignum and wattles, are also utilised. The Gilbert's Whistler forages on or near the ground in shrub thickets and in tops of small trees. Its food consists mainly of spiders and insects such as caterpillars, beetles and ants, and occasionally, seeds and fruits are eaten. Breeding takes place between August and November.			
Falco hypoleucos Grey Falcon BC - E	The Grey Falcon is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. The breeding range has contracted since the 1950s with most breeding now confined to arid parts of the range. There are possibly less than 5000 individuals left. Population trends are unclear, though it is believed to be extinct in areas with more than 500mm rainfall in NSW. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse; peak laying season is in late winter and early spring; two or three eggs are laid.	**Present** Open eucalypt woodland with watercourses in study area.	**Possible** Habitat for this species is present in the proposal area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Pomatostomus temporalis temporalis Grey-crowned Babbler (eastern subspecies) BC - V	The Grey-crowned Babbler has two distinctive subspecies that intergrade to the south of the Gulf of Carpentaria. West of here the subspecies *rubeculus*, formerly considered a separate species (Red-breasted Babbler) is still widespread and common. The eastern subspecies (*temporalis* occurs from Cape York south through Queensland, NSW and Victoria and formerly to the south east of South Australia. This subspecies also occurs in the Trans-Fly Region in southern New Guinea. In NSW, the eastern sub-species occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Balranald. It also occurs in woodlands in the Hunter Valley and in several locations on the north coast of NSW. It may be extinct in the southern, central and New England tablelands. Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Flight is laborious so birds prefer to hop to the top of a tree and glide down to the next one. Birds are generally unable to cross large open	**Present** Open Box-Gum woodland in study area.	**Possible** Habitat for this species is present in the proposal area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	areas. Live in family groups that consist of a breeding pair and young from previous breeding seasons. A group may consist of up to fifteen birds. Feed on invertebrates, either by foraging on the trunks and branches of eucalypts and other woodland trees or on the ground, digging and probing amongst litter and tussock grasses. Build and maintain several conspicuous, dome-shaped stick nests about the size of a football. A nest is used as a dormitory for roosting each night. Nests are usually located in shrubs or sapling eucalypts, although they may be built in the outermost leaves of low branches of large eucalypts. Nests are maintained year round, and old nests are often dismantled to build new ones. Breed between July and February.			
Glossopsitta pusilla Little Lorikeet BC - V	The Little Lorikeet is distributed widely across the coastal and Great Divide regions of eastern Australia from Cape York to South Australia. NSW provides a large portion of the species' core habitat, with lorikeets found westward as far as Dubbo and Albury. Nomadic movements are common, influenced by season and food availability. Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophoras, Melaleucas and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species. Feeds mostly on nectar and pollen, occasionally on native fruits such as mistletoe, and only rarely in orchards. Roosts in treetops, often distant from feeding areas. Nests in proximity to feeding areas if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts. Entrance is small (3 cm) and usually high above the ground (2–15 m). These nest sites are often used repeatedly for decades, suggesting that preferred sites are limited. Riparian trees often chosen, including species like Allocasuarina. Nesting season extends from May to September.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Anseranas semipalmata Magpie Goose BC-V	The Magpie Goose is still relatively common in the Australian northern tropics, but had disappeared from south-east Australia by 1920 due to drainage and overgrazing of reed swamps used for breeding. Since the 1980s there have been an increasing number of records in central and northern NSW. Vagrants can follow food sources to south-eastern NSW. Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Equally	**Absent** No wetlands with dense growths of rushes and sedges in study area.	**Unlikely** Species unlikely to occur in study area	The possibility of impact on this species as a result of the proposal would be further investigated

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	at home in aquatic or terrestrial habitats; often seen walking and grazing on land; feeds on grasses, bulbs and rhizomes. Activities are centred on wetlands, mainly those on floodplains of rivers and large shallow wetlands formed by run-off; breeding can occur in both summer and winter dominated rainfall areas and is strongly influenced by water level; most breeding now occurs in monsoonal areas; nests are formed in trees over deep water; breeding is unlikely in south-eastern NSW. Often seen in trios or flocks on shallow wetlands, dry ephemeral swamps, wet grasslands and floodplains; roosts in tall vegetation.		due to no suitable habitat.	during the preparation of the EIS**.**
Leipoa ocellate Malleefowl BC - E	The stronghold for this species in NSW is the mallee in the south west centred on Mallee Cliffs NP and extending east to near Balranald and scattered records as far north as Mungo NP. West of the Darling River a population also occurs in the Scotia mallee including Tarawi NR and Scotia Sanctuary, and is part of a larger population north of the Murray River in South Australia. The population in central NSW has been significantly reduced through land clearance and fox predation and now occurs chiefly in Yathong, Nombinnie and Round Hill NRs and surrounding areas, though birds continue to survive in Loughnan NR. To the south of this area the species is probably locally extinct in such reserves as Pulletop NR (last recorded 1989), Ingalba NR (1982) and Buddigower NR (1990) and the intensely studied population at Yalgogrin was, in 2003, predicted to be locally extinct by 2008 (although this has not been confirmed). Further east, a population continues to persist in the Goonoo forest near Dubbo. Outside these areas, occasional records have been made in the Pilliga forests (most recently 1999), around Cobar (1991) and Goulburn River NP (1989) though the extent and status of populations in these areas are unknown. Predominantly inhabit mallee communities, preferring the tall, dense and floristically-rich mallee found in higher rainfall (300 - 450 mm mean annual rainfall) areas. Utilises mallee with a spinifex understorey, but usually at lower densities than in areas with a shrub understorey. Less frequently found in other eucalypt woodlands, such as Inland Grey Box, Ironbark or Bimble Box Woodlands with thick understorey, or in other woodlands such dominated by Mulga or native Cypress Pine species. Prefers areas of light sandy to sandy loam soils and habitats with a dense but discontinuous canopy and dense and diverse shrub and herb layers. Although Malleefowl will occupy areas within five years of fire,	**Absent** No mallee communities in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	they prefer older age classes, with little breeding in areas less than 20 years after fire, and in one study the highest densities recorded in long unburnt mallee (60 to 80 years post fire). A pair may occupy a range of between 50 and 500 ha, overlapping with those of their neighbours. Mainly forage in open areas on seeds of acacias and other native shrubs (*Cassia, Beyeria, Bossiaea*), buds, flowers and fruits of herbs and various shrubs, insects (cockroaches, ants, soil invertebrates), and cereals if available. Incubate eggs in large mounds that contain considerable volumes of sandy soil.			
Certhionyx variegatus Pied Honeyeater BC - V	Widespread throughout acacia, mallee and spinifex scrubs of arid and semi-arid Australia. Occasionally occurs further east, on the slopes and plains and the Hunter Valley, typically during periods of drought. Inhabits wattle shrub (primarily Mulga, *Acacia aneura*), mallee, spinifex and eucalypt woodlands, usually when shrubs are flowering; feeds on nectar, predominantly from various species of emu-bushes (*Eremophila* spp.); also from mistletoes and various other shrubs (e.g. *Brachysema* spp. and *Grevillea* spp.); also eats saltbush fruit, berries, seed, flowers and insects. Highly nomadic, following the erratic flowering of shrubs; can be locally common at times. Constructs a relatively large cup-shaped nest, usually robust, although occasionally loose, constructed of grasses and fine twigs, bound with spider webs, in the fork of a shrub or tree up to 5 m above the ground.	**Absent** No mallee and spinifex shrubs in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Glossopsitta porphyrocephala Purple-crowned Lorikeet BC - V	The Purple-crowned Lorikeet occurs across the southern parts of the continent from Victoria to south-west Western Australia. It is uncommon in NSW, with records scattered across the box-ironbark woodlands of the Riverina and south west slopes, the River Red Gum forests and mallee of the Murray Valley as far west as the South Australian border, and, more rarely, the forests of the South Coast. The species is nomadic and most, if not all, records from NSW are associated with flowering events. Found in open forests and woodlands, particularly where there are large flowering eucalypts. Also recorded from mallee habitats. Feed primarily on nectar and pollen of flowering Eucalypts, including planted trees in urban areas. May rarely raid orchards to feed on ripe fruit. Breeds away from feeding areas, utilising hollow branches or holes in trees. Also roosts in dense vegetation up to several kilometres away from feeding areas.	**Present** Open Eucalypt woodland in study area.	**Possible** Habitat for this species is present in the proposal area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Tyto novaehollandiae Masked Owl BC – V	Extends from the coast where it is most abundant to the western plains. Lives in dry eucalypt forests and woodlands from sea level to 1100 m. Habitat for this species is also widespread throughout the dry eucalypt forests of the tablelands, western slopes and the undulating wet-dry forests of the coast. Optimal habitat includes an open understorey and a mosaic of sparse (grassy) and dense (shrubby) ground cover on gentle terrain. Roosts in hollows in live or occasionally dead eucalypts; dense foliage in gullies; and caves. Nest in old hollow eucalypts, live or dead, in a variety of topographic positions, with hollows greater than 40 cm wide and greater than 100 cm deep. Hollow entrances are at least 3 m above ground, in trees of at least 90 cm diameter at breast height. A specialist predator of terrestrial mammals, particularly native rodents. Home range has been estimated as 400-1000 ha according to habitat productivity.	**Present** Open eucalypt woodland in study area, however there are no suitable large hollows.	**Unlikely** Species unlikely to occur in study area due to no suitable hollows.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Cinclosoma castanotum Chestnut Quail-thrush BC - V	Occurs in a wide range of arid and semi-arid habitats; mainly in the low shrubs and undergrowth of mallee scrub, but also in Acacia scrubs, dry sclerophyll woodland, heath, and native pine. However, in NSW it seems to occur almost exclusively in mallee habitats, with understorey dominated by spinifex, chenopods or other shrubs including Acacia species. Only rarely, such as in Cocoparra NP, is it recorded in other types of woodland, and in these areas a dense understorey may be a prerequisite Occupies vegetation with a wide range of fire histories, though appears to occur at highest densities in areas two to fifteen years post fire. There is some evidence from the Victorian mallee that if the interval between fires is too short (less than fifteen years) local declines may occur. These birds forage on the ground, often among spinifex clumps, on a wide range of invertebrates (including grasshoppers, bugs, beetles, flies, caterpillars and ants), seeds of both native and introduced species and, more rarely, fruits. Its nest is a depression in the ground lined with strips of bark, fine grass or sticks, placed near a mallee trunk, against a fallen branch, under a low bush or in a sparse tuft of grass. This species is endemic to arid and semi-arid southern Australia, reaching its northern extent in the south of the Northern Territory. A 'mallee specialist' in NSW where it occurs in two main populations. The first is in the central mallee centred on Round Hill and Nombinnie NRs, with a number of sightings also made on leasehold land to the	**Absent** No Mallee habitat within study area	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	north and west of these reserves. This population probably occurred in mallee as far south as Griffith and Temora, though extensive clearing has meant that recent records have only been made in Loughnan NR and in mallee near Taleeban, and more rarely in Cocoparra NP. The last record from Pulletop NR was in 1999 and prior to this it had not been seen since 1985 despite some survey effort. The other population is in the south west corner of the state where it is widespread in both the Scotia mallee and in areas east of the Darling River as far east as Balranald and north to near Menindee. There are few records between the Darling River and the Great Darling Anabranch, though this may reflect lack of survey effort in suitable habitat. There have been occasional records to the north of these mallee areas (such as Gundabooka and Mutawintji NPs) though these records remain unconfirmed and confusion with other Quail-thrush species can not be discounted.			
Lophochroa leadbeateri Major Mitchell's Cockatoo BC - V	Found across the arid and semi-arid inland, from south-western Queensland south to north-west Victoria, through most of South Australia, north into the south-west Northern Territory and across to the west coast between Shark Bay and about Jurien. In NSW it is found regularly as far east as about Bourke and Griffith, and sporadically further east than that. Inhabits a wide range of treed and treeless inland habitats, always within easy reach of water. Feeds mostly on the ground, especially on the seeds of native and exotic melons and on the seeds of species of saltbush, wattles and cypress pines. Normally found in pairs or small groups, though flocks of hundreds may be found where food is abundant. Nesting, in tree hollows, occurs throughout the second half of the year; nests are at least 1 km apart, with no more than one pair every 30 square kilometres.	**Present** Treed inland habitats present within study area	**Unlikely** No feed species present within study area	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Pedionomus torquatus Plains-wanderer BC - E	They occur in semi-arid, lowland native grasslands that typically occur on hard red-brown soils. These grasslands support a high diversity of plant species, including a number of state and nationally threatened species. Grassland habitat structure is more important than species composition. Preferred habitat typically has 50% bare ground, 10% fallen litter, and the remaining 40% comprised of herbs, forbs and grasses. Most of the vegetation is <5 cm high but some vegetation up to a maximum of 30 cm is important for concealment, as long as grass tussocks are spaced 10-20 cm apart. During prolonged	**Absent** No semi-arid lowland native grasslands present in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	drought, the denudation of preferred habitats may force birds into more marginal habitats that become temporarily suitable. Individual birds range over about 12 ha but share around half this area with a mate, meaning that pairs require about 18 ha of suitable habitat. A ground-dwelling species which is very difficult to observe during the day. The species can only be properly surveyed at night using spotlighting techinques.The vast majority (>99%) of records of Plains-wanderers in NSW over the past 30 years come from an area of the western Riverina bounded by Hay and Narrandera on the Murrumbidgee River in the north, the Cobb Highway in the west, the Billabong Creek in the south, and Urana in the east. Even within its western Riverina stronghold, the Plains-wanderer has a very patchy distribution. Surveys in the 1990s across 5,000km2 of the western Riverina covering 37 properties found only 5% of the total area comprised suitable habitat. The amount of high quality habitat in the Riverina drops to 1-2% during very wet or dry years when grasslands become too dense or are grazed too bare for Plains-wanderers. An API mapping project covering 2.28 million hectares found that 2.3% of the mapping area was identified as primary habitat suitable for Plains-wanderers all year round. A further 4.3% of the 2.28 million ha is comprised of denser, secondary habitat that may be periodically occupied by Plains-wanderers, particularly during drought or extended periods of heavy grazing when primary habitat can become too sparse for the Plains-wanderer. Areas where the species was formerly common and is now so reduced in numbers that it is effectively extinct include eastern NSW, south-western Victoria, and south-eastern South Australia. Its current stronghold is the western Riverina of southern NSW. Areas of secondary importance include north-central Victoria and central-western Queensland. The bird was formerly fairly common until about 1920 on the Slopes and Tablelands, and there are two earlier records of birds near Sydney. The main reason for the decline in the numbers and distribution of Plains-wanderers in all eastern States has been the conversion of native grasslands to dense introduced pasture or croplands. If native grasslands are not overgrazed or cultivated then Plains-wanderers are largely sedentary, though there is some recent evidence to suggest that birds may not remain sedentary during prolonged drought conditions.			preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Haliaetus leucogaster White-bellied Sea-Eagle BC - V	White-bellied Sea-Eagles are a common sight in coastal and near coastal areas of Australia. Birds form permanent pairs that inhabit territories throughout the year. Their loud "goose-like" honking call is a familiar sound, particularly during the breeding season. Birds are normally seen, perched high in a tree, or soaring over waterways and adjacent land. In addition to Australia, the species is found in New Guinea, Indonesia, China, south-east Asia and India. The White-bellied Sea-Eagle feeds mainly off aquatic animals, such as fish, turtles and sea snakes, but it takes birds and mammals as well. It is a skilled hunter, and will attack prey up to the size of a swan. Sea-Eagles also feed on carrion (dead prey) such as sheep and fish along the waterline. They harass smaller birds, forcing them to drop any food that they are carrying. Sea-Eagles feed alone, in pairs or in family groups. White-bellied Sea-Eagles build a large stick nest, which is used for many seasons in succession. The nest can be located in a tree up to 30m above the ground, but may be also be placed on the ground or on rocks, where there are no suitable trees. At the start of the breeding season (May to October), the nest is lined with fresh green leaves and twigs. The female carries out most of the incubation of the two white eggs, but the male performs this duty from time to time.	**Present** Woodlands present within study area	**Unlikely** No major rivers or lakes within 1km from study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Hylacola cautus Shy Heathwren BC - V	Occurs across southern Australia extending from the wheatbelt in southern Western Australia east to central NSW, including Kangaroo Island. Two subspecies occur in NSW. The first (macrorhyncha) is confined to central NSW between Griffith, Roto, Nymagee and West Wyalong, with most records within OEH managed reserves (including Yathong, Nombinnie, Round Hill and The Charcoal Tank Nature Reserves and Cocoparra National Park). The nominate subspecies (cautus) occurs in the far south west between Balranald and Trentham Cliffs (including Mallee Cliffs National Park), north into the Scotia Mallee (including Tarawi Nature Reserve and Scotia Sanctuary). This subspecies also occurs in north west Victoria and eastern South Australia (as far west as the Flinders Ranges). Inhabits mallee woodlands with a relatively dense understorey of shrubs and heath plants. The central NSW population (for example in Cocoparra NP) also occurs at low densities in rocky hilltop vegetation with a thick shrub layer such as Broombush or Tea-tree.	**Absent** No associated habitat present within study area	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	Appears to occur in all age classes of vegetation, though believed to prefer either one to five years following fire when the resprouting eucalypts provide dense vegetation cover or in long unburnt (greater than 40 years) areas which have a well developed shrub layer.			
Drymodes brunneopygia Southern Scrub-robin BC - V	Inhabits mallee and acacia scrub, particularly with dense sub-shrubs in the understorey, including Broombush and other dry shrubs. This species is restricted to mallees and shrublands across southern Australia and in NSW is confined to two main areas. The first is in central NSW and is centred on Round Hill and Nombinnie Nature Reserves, though suitable habitat probably exists on adjoining leasehold lands. The other population occurs in the far south west of NSW, mainly within the Scotia mallee centred on Tarawi NR and Scotia Sanctuary. Records east of the Darling River are more scattered, with recent confirmation in Mallee Cliffs NP, and a new population recently detected on leasehold land to the north of Euston. Other populations may still occur in other areas of mallee, particularly those with a well developed shrub layer in the south west corner of the state.	**Absent** No associated habitat present within study area	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Climacteris affinis White-browed Treecreeper BC – Endangered population	White-browed Treecreepers usually inhabit shrublands and woodlands in arid and semi-arid regions. They mostly occur in tall shrubland and low woodland dominated by acacias, such as Mulga, Western Myall and Gidgee, or casuarinas, such as Buloke and Belah, or woodlands dominated by cypress-pines Callitris. In north-western Victoria, the species tends to be restricted to woodlands dominated by Belah, cypress-pine, or a mixture of Buloke and cypress-pine. They are less often seen in mallee, Sugarwood shrubland, or woodland dominated by Leopardwood. The species sometimes inhabits Coolibah, River Red Gum or Black Box woodlands near wetlands. The understorey of suitable woodlands may be closed and dominated by a lower layer of shrubs, open and dominated by grasses, or absent altogether.	**Absent** No associated habitat present within study area	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Mammals				
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat	Found mainly in areas with extensive cliffs and caves, from Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. It is generally rare with a very patchy distribution in NSW. Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-	**Absent** No suitable roosts available. No fairy	**Unlikely**	The possibility of impact on this species as a result of the proposal

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
EPBC - V	shaped mud nests of the Fairy Martin (*Hirundo arie*l), frequenting low to mid-elevation dry open forest and woodland close to these features. Females have been recorded raising young in maternity roosts (c. 20-40 females) from November through to January in roof domes in sandstone caves. Found in well-timbered areas containing gullies. This species probably forages for small, flying insects below the forest canopy. Likely to hibernate through the coolest months. It is uncertain whether mating occurs early in winter or in spring.	martin nests observed.	Species unlikely to occur in study area due to no suitable habitat.	would be further investigated during the preparation of the EIS**.**
Cercartetus nanus Eastern Pygmy Possum BC – V	Found in a broad range of habitats from rainforest through sclerophyll (including Box-Ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred, except in north-eastern NSW where they are most frequently encountered in rainforest. Feeds largely on nectar and pollen collected from banksias, eucalypts and bottlebrushes; an important pollinator of heathland plants such as banksias; soft fruits are eaten when flowers are unavailable. Also feeds on insects throughout the year; this feed source may be more important in habitats where flowers are less abundant such as wet forests. Shelters in tree hollows, rotten stumps, holes in the ground, abandoned bird-nests, Ringtail Possum (Pseudocheirus peregrinus) dreys or thickets of vegetation, (eg. grass-tree skirts); nest-building appears to be restricted to breeding females; tree hollows are favoured but spherical nests have been found under the bark of eucalypts and in shredded bark in tree forks.	**Present** Open eucalypt woodland in study area with a few hollows.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Dasyurus maculatus maculatus (SE mainland population) Spotted-tailed Quoll BC - V EPBC - E	Tiger Quolls are found in a range of forest habitats, from rainforest to open woodland. They require forest with suitable den sites such as rock crevices, caves, hollow logs, burrows and tree hollows. The Tiger Quoll has a large home range and can cover considerable distances (more than 6km) overnight. It is largely nocturnal and solitary.	**Absent** No suitable den sites in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Miniopterus schreibersii oceanensis	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines,	**Absent**	**Unlikely**	The possibility of impact on this

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Eastern Bentwing Bat BC – V	storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young. Maternity caves have very specific temperature and humidity regimes. At other times of the year, populations disperse within about 300 km range of maternity caves. Cold caves are used for hibernation in southern Australia.	No suitable roosting habitat in study area.	Species unlikely to occur in study area due to no suitable habitat.	species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Falsistrellus tasmaniensis Eastern False Pipistrelle BC – V	The Eastern False Pipistrelle is found on the south-east coast and ranges of Australia, from southern Queensland to Victoria and Tasmania. Prefers moist habitats, with trees taller than 20 m. Generally roosts in eucalypt hollows, but has also been found under loose bark on trees or in buildings. Hunts beetles, moths, weevils and other flying insects above or just below the tree canopy. Hibernates in winter. Females are pregnant in late spring to early summer.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Myotis Macropus Southern Myotis BC – V	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. Forage over streams and pools catching insects and small fish by raking their feet across the water surface. In NSW females have one young each year usually in November or December.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Chalinolobus picatus Little Pied Bat BC - V	The Little-Pied Bat is found in inland Queensland and NSW (including Western Plains and slopes) extending slightly into South Australia and Victoria. Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress-pine forest, mallee, Bimble box. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings. Can tolerate high temperatures and dryness but need access to nearby open water. Feeds on moths and possibly other flying invertebrates.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
				preparation of the EIS.
Saccolaimus flaviventris Yellow-bellied Sheathtail-bat BC - V	Yellow-bellied Sheathtail-bats have a broad distribution, foraging in most forested and clear habitats, and roost in tree hollows and buildings, or in mammal burrows in cleared areas.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat EPBC - V	Corben's Long-eared Bat occurs from the south eastern side of the Murray Darling Basin with the Pilliga Scrub region being the distinct stronghold for this species. The Species inhabits a variety of vegetation types, including mallee, bulloke Allocasuarina leuhmanni and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW and southern Queensland. The speices roosts in tree hollows, crevices, and under loose bark, and breeds in autumn with one or two young born in late spring to early summer.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Petaurus norfolcensis Squirrel Glider BC – V BC – endangered population Wagga Wagga LGA	The Squirrel Glider is sparsely distributed along the east coast and immediate inland districts from western Victoria to north Queensland. The species is found inland as far as the Grampians in Victoria and the Pilliga and the Coonabarabran areas of NSW. Inhabits dry sclerophyll forest and woodland and is generally absent from rainforest and closed forest. In NSW, potential habitat includes Box-Ironbark forests and woodlands in the west, the River Red Gum forests of the Murray Valley and the eucalypt forests of the northeast. Requires abundant hollow-bearing trees and a mix of eucalypts, acacias and banksias. Nightly movements are estimated at between 300 and 500m. Home-ranges have been estimated at between 0.65 and 8.55ha. Smooth-barked eucalypts are preferred as these eucalypts form hollows more readily than	**Present** Open eucalypt woodland in study area,	**Present** One record of this species occurring within study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	rough-barked and support a greater diversity of invertebrates. Squirrel Glider's forage in the upper and lower forest canopies and in the shrub understorey.			
Pteropus poliocephalus Grey-headed Flying-fox EPBC - V	Grey-headed Flying-foxes are found within 200 km of the eastern coast of Australia, from Bundaberg in Queensland to Melbourne in Victoria. Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source, often in stands of riparian rainforest, Paperbark or Casuarina forest, and are commonly found in gullies, close to water, or in vegetation with a dense canopy. Forage on the nectar and pollen of native trees, in particular *Eucalyptus*, *Melaleuca* and *Banksia,* and fruits of rainforest trees and vines. Travel up to 50 km to forage. Annual mating commences in January and a single young is born each October or November. Site fidelity to camps is high with some camps being used for over a century.	**Absent** Open eucalypt woodland in study area, however this is not within 20 km of riparian rainforest.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Phascolarctos cinereus *Koala* BC - V EPBC - V	Occurs in eastern Australia, from north-eastern Queensland to south-eastern South Australia and to the west of the Great Dividing Range. In NSW it mainly occurs on the central and north coasts with some populations in the western region. It was historically abundant on the south coast of NSW, but now occurs in sparse and possibly disjunct populations. The koala inhabits a range of eucalypt forest and woodland communities, including coastal forests, the woodlands of the tablelands and western slopes, and the riparian communities of the western plains.	**Present** Open eucalypt woodland in study area with feed tree species.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Petauroides Volans Greater Glider EPBC - V	The Greater Glider is restricted to eastern Australia, occurring from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest), with an elevational range from sea level to 1200 m above sea level. The species occurs in eucalypt forests and woodlands and is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.	**Present** Open dry sclerophyll forest in study area, however there are minimal hollows.	**Unlikely** Species unlikely to occur in study area due to limited number of hollow bearing trees.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Sminthopsis macroura Stripe-faced Dunnart BC - V	Occurs throughout much of inland central and northern Australia, extending into central and northern NSW, western Queensland, Northern Territory, South Australia and Western Australia. They are rare on the NSW Central West Slopes and North West Slopes with the most easterly records of recent times located around Dubbo, Coonabarabran, Warialda and Ashford. Inhabit native dry grasslands and low dry shrublands, often along drainage lines. During periods of hot weather they shelter in cracks in the soil, in grass tussocks or under rocks and logs.	**Absent** No dry grasslands or shrublands within study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Scoteanax rueppellii Greater Broad-nosed Bat BC - V	The Greater Broad-nosed Bat is found mainly in the gullies and river systems that drain the Great Dividing Range, from north-eastern Victoria to the Atherton Tableland. It extends to the coast over much of its range. In NSW it is widespread on the New England Tablelands, however does not occur at altitudes above 500 m. Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. Although this species usually roosts in tree hollows, it has also been found in buildings. Forages after sunset, flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m. Open woodland habitat and dry open forest suits the direct flight of this species as it searches for beetles and other large, slow-flying insects; this species has been known to eat other bat species. Little is known of its reproductive cycle, however a single young is born in January; prior to birth, females congregate at maternity sites located in suitable trees, where they appear to exclude males during the birth and raising of the single young.	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Vespadelus baverstocki Inland Forest Bat BC - V	Believed to occur widely in all the mainland states, generally in areas with annual rainfall less than 400 millimetres. In Victoria it is confined to the extreme north west. In NSW it has been most regularly captured in the far south west, north from the Murray River to Menindee, and at least as far east as the Balranald-Ivanhoe Road. There is some evidence to suggest that this species also occurs in the central NSW mallee, centred on Nombinnie Nature Reserve, although there has been very little recent survey in this part of the state. There are also records just south of the Queensland border around the Culgoa River, though whether this connect with the other NSW populations, or	**Present** Open eucalypt woodland with small hollows in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	is the southern extent of a northern population is unknown. There are records further east in NSW but the identification of these records have not been confirmed. There are relatively few records any *Vespadelus* species in the north west of NSW and so whether this species does occur here is unknown. Some of the gaps in knowledge on the distribution on this and other bat species in western NSW probably reflects the lack of survey effort in most of this region. Roosts in hollows, fissures or cracks in live or dead trees, and roosts in abandoned buildings. Known to roost in very small hollows in stunted trees only a few metres high. The habitat requirements of this species are poorly known but it has been recorded from a variety of woodland formations, including mallee, mulga and River Red Gum. Most records are from drier woodland habitats with riparian areas inhabited by the Little Forest Bat. However, other habitats may be used for foraging and/or drinking. Colony size ranges from a few individuals to more than sixty. Females congregate to raise young in November and December, with young carried for the first week following birth. Young are independent by January. These bats fly rapidly and cover an extensive foraging area and are presumed to feed on flying insects.			preparation of the EIS.
Amphibians				

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog EPBC - V	In NSW the species was once distributed along the Murray and Murrumbidgee Rivers and their tributaries, the southern slopes of the Monaro district and the central southern tablelands as far north as Tarana, near Bathurst. Currently, the species is known to exist only in isolated populations in the Coleambally Irrigation Area, the Lowbidgee floodplain and around Lake Victoria. A few yet unconfirmed records have also been made in the Murray Irrigation Area in recent years. The species is also found in Victoria, Tasmania and South Australia, where it has also become endangered. Usually found in or around permanent or ephemeral Black Box/Lignum/Nitre Goosefoot swamps, Lignum/Typha swamps and River Red Gum swamps or billabongs along floodplains and river valleys. They are also found in irrigated rice crops, particularly where there is no available natural habitat. Breeding occurs during the warmer months and is triggered by flooding or a significant rise in water levels. The species has been known to breed anytime from early spring through to late summer/early autumn (Sept to April) following a rise in water levels. During the breeding season animals are found floating amongst aquatic vegetation (especially cumbungi or Common Reeds) within or at the edge of slow-moving streams, marshes, lagoons, lakes, farm dams and rice crops. Tadpoles require standing water for at least 4 months for development and metamorphosis to occur but can take up to 12 months to develop. Outside the breeding season animals disperse away from the water and take shelter beneath ground debris such as fallen timber and bark, rocks, grass clumps and in deep soil cracks. Prey includes a variety of invertebrates as well as other small frogs, including young of their own species.	**Present** Man-made dam could provide suitable habitat	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Crinia sloanei Sloane's Froglet BC - V (BN)	Sloane's Froglet is typically associated with periodically inundated areas in grassland, woodland and disturbed habitats. Typically breeds in ephemeral wetlands, or periodically inundated areas of permanent wetlands, in grasslands, woodlands, and disturbed environments.	**Present** Open woodland which is periodically inundated in study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Reptiles				
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard EPBC - V	Only known from the Central and Southern Tablelands, and the South Western Slopes. There is a concentration of populations in the Canberra/Queanbeyan Region. Other populations have been recorded near Cooma, Yass, Bathurst, Albury and West Wyalong. This species is also found in the Australian Capital Territory. Inhabits sloping, open woodland areas with predominantly native grassy groundlayers, particularly those dominated by Kangaroo Grass (*Themeda australis*). Sites are typically well-drained, with rocky outcrops or scattered, partially-buried rocks. Commonly found beneath small, partially-embedded rocks and appear to spend considerable time in burrows below these rocks; the burrows have been constructed by and are often still inhabited by small black ants and termites. Feeds on the larvae and eggs of the ants with which it shares its burrows. It is thought that this species lays 2 eggs inside the ant nests during summer; the young first appear in March. Best detected from September to February.	**Absent** No native grassy groundcover dominated by Kangaroo Grass or rocky outcrops in study area.	**Unlikely** Species unlikely to occur in study area due to no suitable habitat.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Delma impar Striped Legless Lizard EPBC - V BC - V	The Striped Legless Lizard occurs in the Southern Tablelands, the South West Slopes and possibly on the Riverina. Populations are known in the Goulburn, Yass, Queanbeyan, Cooma and Tumut areas. Also occurs in the ACT, Victoria and south-eastern South Australia. Found mainly in Natural Temperate Grassland but has also been captured in grasslands that have a high exotic component. Also found in secondary grassland near Natural Temperate Grassland and occasionally in open Box-Gum Woodland. Habitat is where grassland is dominated by perennial, tussock-forming grasses such as Kangaroo and Wallaby. Sometimes found in grasslands with significant amounts of surface rocks, which are used for shelter. Actively hunts for spiders, crickets, moth larvae and cockroaches. Animals have been recorded moving at least 20m in one day, and up to 50m over several weeks.	**Present** Box-Gum Woodland and grassland with high exotic component in study area	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Fish				
Maccullochella peelii Murray Cod EPBC - V	Grow up to a maximum size of 1200mm. Found extensively throughout the Murray Darling Basin in the south-eastern region of Australia. Murray cod are able to live in a wide range of habitats from clear, rocky streams in the upper western slopes regions of New South Wales to the slow flowing, turbid rivers	**Absent** No streams, rivers or billabongs with	**Unlikely** Species unlikely to occur as there is no	The possibility of impact on this species as a result of the proposal

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	and billabongs of the western plains. Generally, they are found in waters up to 5m deep and in sheltered areas with cover from rocks, timber or overhanging banks. The most common components of adult cod's diet include crustaceans such as yabbies, shrimp and crayfish, and fish such as the introduced common carp, goldfish and redfin perch, and the native fishes bony herring, catfish, golden perch, western carp gudgeon and even other cod. It appears that Murray cod prefer protected spawning sites, and typically spawn large (3.0-3.5mm diameter) adhesive eggs onto firm substrates such as hollow logs, rocks, pipes and clay banks, from spring to early summer.	complex structural cover in study area.	suitable habitat in study area.	would be further investigated during the preparation of the EIS.
Macquaria australasica Macquarie Perch EPBC - E	Macquarie perch grow to a maximum size of 400mm. They are found in the Murray-Darling Basin (particularly upstream reaches) of the Lachlan, Murrumbidgee and Murray rivers, and parts of south-eastern coastal NSW, including the Hawkesbury and Shoalhaven catchments. The conservation status of the different populations is not well known, but there have been long-term declines in their abundance. Macquarie perch are found in both river and lake habitats, especially the upper reaches of rivers and their tributaries. They are quiet, furtive fish that feed on aquatic insects, crustaceans and molluscs. Sexual maturity occurs at two years for males and three years for females. Macquarie perch spawn in spring or summer in shallow upland streams or flowing parts of rivers. Females produce around 50,000-100,000 eggs which settle among stones and gravel of the stream or river bed.	**Absent** No aquatic habitat with clear, deep, rocky holes, aquatic vegetation, large bounders or woody debris, or overhanging banks in study area.	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Galaxias rostratus Flathead Galaxias CE FM CE EPBC (PMST)	Flathead Galaxias are found in still or slow moving water bodies such as wetlands and lowland streams. The species has been recorded forming shoals. They have been associated with a range of habitats including rock and sandy bottoms and aquatic vegetation.	**Absent** No water bodies with rocky or sandy substrate in study area.	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Migratory Species				

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
Apus pacificus Fork-tailed Swift EPBC - M	This species breeds in the north-east and mid-east Asia and winters in Australia and southern New Guinea. It is a visitor to most parts of Western Australia, beginning to arrive in the Kimberley in late September, in the Pilbara and Eucla in November and in the south-west land division in mid-December, and leaving by late April. It is common in the Kimberley, uncommon to moderately common near north-west, west and southeast coasts and rare to scarce elsewhere. They never settle voluntarily on the ground and spend most of their lives in the air, living on the insects they catch in their beaks.	**Absent** No known distributions within study area.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Hirundapus caudacutus Yellow Wagtail EPBC - M	White-throated Needletails often occur in large numbers over eastern and northern Australia. They arrive in Australia from their breeding grounds in the northern hemisphere in about October each year and leave somewhere between May and August. They are aerial birds and for a time it was commonly believed that they did not land while in Australia. It has now been observed that birds will roost in trees, and radio-tracking has since confirmed that this is a regular activity. The White-throated Needletail feeds on flying insects, such as termites, ants, beetles and flies. They catch the insects in flight in their wide gaping beaks. Birds usually feed in rising thermal currents associated with storm fronts and bushfires and they are commonly seen moving with wind fronts. White-throated Needletails are non-breeding migrants in Australia.	**Present** No known distributions within study area, however there are canopy tree that this species may roost in.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Myiagra cyanoleuca Satin Flycatcher EPBC - M	The Satin Flycatcher is found along the east coast of Australia from far northern Queensland to Tasmania, including south-eastern South Australia. It is also found in New Guinea. The Satin Flycatcher is not a commonly seen species, especially in the far south of its range, where it is a summer breeding migrant. The Satin Flycatcher is found in tall forests, preferring wetter habitats such as heavily forested gullies, but not rainforests. The Satin Flycatcher is a migratory species, moving northwards in winter to northern Queensland and Papua New Guinea, returning south to breed in spring. The Satin Flycatcher takes insects on the wing, foraging actively from perches in the mid to upper canopy.	**Absent** No tall forests, with wet habitats or heavily forested gullies in study area.	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Rhipidura rufifrons Rufous Fantail	The Rufous Fantail is found in northern and eastern coastal Australia, being more common in the north. It is also found in New Guinea, the Solomon	**Absent**	**Unlikely**	The possibility of impact on this

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
EPBC - M	Islands, Sulawesi and Guam. The Rufous Fantail is found in rainforest, dense wet forests, swamp woodlands and mangroves, preferring deep shade, and is often seen close to the ground. During migration, it may be found in more open habitats or urban areas. Strongly migratory in the south of its range, it moves northwards in winter, and virtually disappears from Victoria and New South Wales at this time. The Rufous Fantail feeds on insects, which it gleans from the middle and lower levels of the canopy. It is a very active feeder and constantly fans tail and flicks wings and body while foraging. The Rufous Fantail builds a small compact cup nest, of fine grasses bound with spider webs, that is suspended from a tree fork about 5 m from the ground. The bottom of the nest is drawn out into a long stem.	No coastal habitat in study area.	Species unlikely to occur as there is no suitable habitat in study area, although it may visit during migration.	species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Actitis hypoleucos Common Sandpiper EPBC - CE	A group of shorebirds (also called waders) which occupy a particular area of Botany Bay and includes the characteristic assemblage of the following 20 species: Bar-tailed Godwit (*Limosa lapponica*), Red Knot (*Calidris canutus*), Great Knot (*Calidris tenuirostris*), Sharp-tailed Sandpiper (*Calidris acuminata*), Curlew Sandpiper (*Calidris ferruginea*), Red-necked Stint (*Calidris ruficollis*), Common Sandpiper (*Actitis hypoleucos*), Terek Sandpiper (*Xenus cinereus*), Latham's Snipe (*Gallinago hardwickii*), Grey-tailed Tattler (*Heteroscelus brevipes*), Grey Plover (*Pluvialis squatarola*), Pacific Golden Plover (*Pluvialis fulva*), Common Greenshank (*Tringa nebularia*), Masked Lapwing (*Vanellus miles*), Marsh Sandpiper (*Tringa stagnatilis*), Ruddy Turnstone (*Arenaria interpres*), Pied Oystercatcher (*Haematopus longirostris*), Sooty Oystercatcher (*Haematopus fulinginosus*), Whimbrel (*Numenius phaeopus*), and Eastern Curlew (*Numenius madagascariensis*). Occurs on the relict muddy sand marginal shoal of the Georges River between Taren Point and Shell Point in Botany Bay. Some species identified within this community can also be found foraging and roosting at other locations within Botany Bay. In Botany Bay the shorebird community utilises roosting and foraging habitat (intertidal mud flats and sand flats) not only at the relict marginal shoal at Taren Point but at other sites including Penrhyn Inlet, Sandringham and the shoreline adjacent to the north-east side of the Captain Cook Bridge. For some species (Terek Sandpiper, Grey-tailed Tattler), the proximity of mangroves (*Avicennia marina*) is important as roosting habitat. A majority of these species breed in the northern hemisphere, including northeast Siberia and Alaska. They breed	**Absent** No muddy flats in study area. .	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is outside its known distribution.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	during June/July then leave the breeding grounds and migrate south between August and September. They spend the austral summer in Australia, New Zealand, Indonesia, southern Asia and Africa. Upon arrival in Australia, they generally return to traditional feeding and roosting locations, such as those found at Taren Point and elsewhere in Botany Bay. They leave Australia between April and May. However juveniles, non-breeders or under-weight individuals often will not migrate north, remaining in their southern foraging grounds over winter. The community usually forage as separate guilds (groups of species) during low tide in locations adjacent to the roost site. The substrates found in the Taren Point area are rich in invertebrates upon which shorebirds feed. Only two other locations within Botany Bay exhibit this high invertebrate species diversity, Quibray Bay (Towra Point Nature Reserve) and Penrhyn Inlet.			
Calidris acuminate Sharp-tailed Sandpiper EPBC - M	A group of shorebirds (also called waders) which occupy a particular area of Botany Bay and includes the characteristic assemblage of the following 20 species: Bar-tailed Godwit (*Limosa lapponica*), Red Knot (*Calidris canutus*), Great Knot (*Calidris tenuirostris*), Sharp-tailed Sandpiper (*Calidris acuminata*), Curlew Sandpiper (*Calidris ferruginea*), Red-necked Stint (*Calidris ruficollis*), Common Sandpiper (*Actitis hypoleucos*), Terek Sandpiper (*Xenus cinereus*), Latham's Snipe (*Gallinago hardwickii*), Grey-tailed Tattler (*Heteroscelus brevipes*), Grey Plover (*Pluvialis squatarola*), Pacific Golden Plover (*Pluvialis fulva*), Common Greenshank (*Tringa nebularia*), Masked Lapwing (*Vanellus miles*), Marsh Sandpiper (*Tringa stagnatilis*), Ruddy Turnstone (*Arenaria interpres*), Pied Oystercatcher (*Haematopus longirostris*), Sooty Oystercatcher (*Haematopus fulinginosus*), Whimbrel (*Numenius phaeopus*), and Eastern Curlew (*Numenius madagascariensis*). Occurs on the relict muddy sand marginal shoal of the Georges River between Taren Point and Shell Point in Botany Bay. Some species identified within this community can also be found foraging and roosting at other locations within Botany Bay. In Botany Bay the shorebird community utilises roosting and foraging habitat (intertidal mud flats and sand flats) not only at the relic marginal shoal at Taren Point but at other sites including Penrhyn Inlet, Sandringham and the shoreline adjacent to the north-east side of the Captain Cook Bridge. For some species (Terek Sandpiper, Grey-tailed Tattler), the proximity of mangroves (*Avicennia marina*) is	**Absent** No muddy flats or mangroves in study area. .	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is outside its known distribution.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	important as roosting habitat. A majority of these species breed in the northern hemisphere, including northeast Siberia and Alaska. They breed during June/July then leave the breeding grounds and migrate south between August and September. They spend the austral summer in Australia, New Zealand, Indonesia, southern Asia and Africa. Upon arrival in Australia, they generally return to traditional feeding and roosting locations, such as those found at Taren Point and elsewhere in Botany Bay. They leave Australia between April and May. However juveniles, non-breeders or under-weight individuals often will not migrate north, remaining in their southern foraging grounds over winter. The community usually forage as separate guilds (groups of species) during low tide in locations adjacent to the roost site. The substrates found in the Taren Point area are rich in invertebrates upon which shorebirds feed. Only two other locations within Botany Bay exhibit this high invertebrate species diversity, Quibray Bay (Towra Point Nature Reserve) and Penrhyn Inlet.			
Calidris ferruginea Curlew Sandpiper EPBC - M	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Curlew Sandpipers generally roost on bare dry shingle, shell or sand beaches, sandspits and islets in or around coastal or near-coastal lagoons and other wetlands, occasionally roosting in dunes during very high tides and sometimes in saltmarsh. This species does not breed in Australia. This species forages mainly on invertebrates, including worms, molluscs, crustaceans, and insects, as well as seeds.	**Absent** Study area does not occur along the coast.	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is outside its known distribution.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Calidris melanotos Pectoral Sandpiper EPBC - M	This species breeds in high-arctic tundra from the Yamal Peninsula eastwards to the Bearing Strait in Siberia and in arctic Alaska and Canada,. It is known to migrate mostly through the USA and mexico and spends most of its non-breeding months in South America. A small number of these birds are known to reach Australia and are believed to be concentrated in south-eastern Australia. This species prefers freshwater mudflats.	**Absent** No freshwater mudflats in study area	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is	The possibility of impact on this species as a result of the proposal would be further investigated

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
			outside its known distribution.	during the preparation of the EIS**.**
Gallinago hardwickii Latham's Snipe, Japanese Snipe EPBC - M	In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity. Latham's Snipe does not breed within Australian jurisdiction. Latham's Snipe is an omnivorous species that feeds on seeds and other plant material (mainly from species in families such as Cyperaceae, Poaceae, Juncaceae, Polygonaceae, Ranunculaceae and Fabaceae), and on invertebrates including insects (mainly flies and beetles), earthworms and spiders and occasionally molluscs, isopods and centipedes.	**Absent** No permanent and ephemeral wetlands with dense vegetation in study area	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is outside its known distribution.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**
Hirundapus caudacutus White-throated Needletail EPBC - M	White-throated Needletails often occur in large numbers over eastern and northern Australia. They arrive in Australia from their breeding grounds in the northern hemisphere in about October each year and leave somewhere between May and August. They are aerial birds and for a time it was commonly believed that they did not land while in Australia. It has now been observed that birds will roost in trees, and radio-tracking has since confirmed that this is a regular activity. The White-throated Needletail feeds on flying insects, such as termites, ants, beetles and flies. They catch the insects in flight in their wide gaping beaks. Birds usually feed in rising thermal currents associated with storm fronts and bushfires and they are commonly seen moving with wind fronts. White-throated Needletails are non-breeding migrants in Australia.	**Present** No known distributions within study area, however there are canopy tree that this species may roost in.	**Possible** Habitat for this species is present in the proposal are	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS.
Monarcha melanopsis Black-faced Monarch EPBC – M	The Black-faced Monarch is found along the coast of eastern Australia, becoming less common further south. The Black-faced Monarch is found in rainforests, eucalypt woodlands, coastal scrub and damp gullies. It may be found in more open woodland when migrating. Resident in the north of its range, but is a summer breeding migrant to coastal south-eastern Australia, arriving in September and returning northwards in March. The Black-faced Monarch forages for insects among foliage, or catches flying insects on the	**Absent** No rainforests, eucalypt woodlands, coastal scrub and damp gullies in study area	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is	The possibility of impact on this species as a result of the proposal would be further investigated during the

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
	wing. The Black-faced Monarch builds a deep cup nest of casuarina needles, bark, roots, moss and spider web in the fork of a tree, about 3 m to 6 m above the ground. Only the female builds the nest, but both sexes incubate the eggs and feed the young.		outside its known distribution.	preparation of the EIS**.**
Tringa nebularia Common Greenshank EPBC - M	The distinctive Greenshank is widespread, mainly in coastal regions, but also common in some of the wetlands on the interior. It feeds by wading in shallow water.	**Absent** No coastal areas or wetlands in study area	**Unlikely** Species unlikely to occur as there is no suitable habitat in study area and is outside its known distribution.	The possibility of impact on this species as a result of the proposal would be further investigated during the preparation of the EIS**.**

Species	Habitat requirements	Presence of habitat	Likelihood of occurrence	Potential impact
CE BC = listed as Critically Endangered under Schedule 1 of the NSW *Biodiversity Conservation Act 2016* CE EPBC = listed as Critically Endangered under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999.* E BC = listed as Endangered under Schedule 1 of the NSW *Biodiversity Conservation Act 2016* E EPBC = listed as Endangered under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999.* V BC = listed as Vulnerable under Schedule 1 of the NSW *Biodiversity Conservation Act 2016* V EPBC = listed as Vulnerable under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999.* M EPBC = listed as Migratory under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999.* CE FM = listed as Critically Endangered under Schedule 4A of the NSW *Fisheries Management Act 1994.* E FM = listed as Endangered under Schedule 4 of the NSW *Fisheries Management Act 1994.* V FM = listed as Vulnerable under Schedule 5 of the NSW *Fisheries Management Act 1994.*	**CAMBA = Chinese-Australia Migratory Bird Agreement** **JAMBA = Japan-Australia Migratory Bird Agreement**			

APPENDIX B BACKGROUND SEARCHES

Australian Government
Department of the Environment and Energy

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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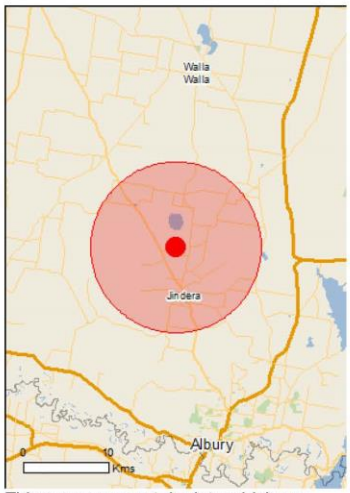

This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates
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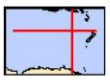


Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	7
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	22
Listed Migratory Species:	13

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	19
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	34
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Banrock station wetland complex	600 - 700km upstream
Barmah forest	100 - 150km upstream
Gunbower forest	200 - 300km upstream
Hattah-kulkyne lakes	400 - 500km upstream
Nsw central murray state forests	100 - 150km upstream
Riverland	500 - 600km upstream
The coorong, and lakes alexandrina and albert wetland	600 - 700km upstream

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		
Name	Status	Type of Presence
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Galaxias rostratus		
Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat likely to occur within area
Maccullochella peelii		
Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Macquaria australasica		
Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Frogs		
Litoria raniformis		
Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog [1828]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Nyctophilus corbeni		
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Plants		
Amphibromus fluitans		
River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area
Prasophyllum petilum		
Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area
Prasophyllum validum		
Sturdy Leek-orchid [10268]	Vulnerable	Species or species habitat may occur within area
Swainsona recta		
Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
Reptiles		
Aprasia parapulchella		
Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area
Delma impar		
Striped Legless Lizard [1649]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species

Name	Threatened	Type of Presence
		habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris European Greenfinch [404]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-35.9127 146.87776

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Office of Environment & Heritage

Home > Topics > Animals and plants > Search for threatened species > Find by region

Threatened Species found in Lower Slopes IBRA sub-region

Search using criteria below or filter existing results

Status

Show nationally listed species only

Search

Matching records: 131 Save to CSV

Click on column headers to sort

Scientific name ▲	Common name	Conservation project	Type of species	NSW status	Occurrence	Vegetation class
Anseranas semipalmata	Magpie Goose	Anseranas semipalmata conservation project	Animal > Birds	Vulnerable	Known	Show 17 linked vegetation classes
Brachyscome papillosa	Mossgiel Daisy	Brachyscome papillosa conservation project	Plant > Herbs and Forbs	Vulnerable	Known	Show 8 linked vegetation classes
Lophochroa leadbeateri	Major Mitchell's Cockatoo	Lophochroa leadbeateri conservation project	Animal > Birds	Vulnerable	Known	Show 33 linked vegetation classes
Caladenia concolor	Crimson Spider Orchid	Caladenia concolor conservation project	Plant > Orchids	Endangered	Predicted	Show 2 linked vegetation classes
Calyptorhynchus lathami	Glossy Black-Cockatoo	Calyptorhynchus lathami conservation project	Animal > Birds	Vulnerable	Known	Show 63 linked vegetation classes
Dasyurus maculatus	Spotted-tailed Quoll	Dasyurus maculatus conservation project	Animal > Marsupials	Vulnerable	Known	Show 70 linked vegetation classes

Drymodes brunneopygia	**Southern Scrub-robin**	**Drymodes brunneopygia conservation project**	Animal > Birds	Vulnerable	Known	**Show 3 linked vegetation classes**
Eleocharis obicis	**Spike-Rush**	**Eleocharis obicis conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 12 linked vegetation classes**
Falsistrellus tasmaniensis	**Eastern False Pipistrelle**	**Falsistrellus tasmaniensis conservation project**	Animal > Bats	Vulnerable	Known	**Show 53 linked vegetation classes**
Grus rubicunda	**Brolga**	**Grus rubicunda conservation project**	Animal > Birds	Vulnerable	Known	**Show 18 linked vegetation classes**
Leipoa ocellata	**Malleefowl**	**Leipoa ocellata conservation project**	Animal > Birds	Endangered	Known	**Show 6 linked vegetation classes**
Lepidium aschersonii	**Spiny Peppercress**	**Lepidium aschersonii conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 11 linked vegetation classes**
Leptorhynchos orientalis	**Lanky Buttons**	**Leptorhynchos orientalis conservation project**	Plant > Herbs and Forbs	Endangered	Known	**Show 5 linked vegetation classes**
Petaurus norfolcensis	**Squirrel Glider**	**Petaurus norfolcensis conservation project**	Animal > Marsupials	Vulnerable	Known	**Show 52 linked vegetation classes**
Rostratula australis	**Australian Painted Snipe**	**Rostratula australis conservation project**	Animal > Birds	Endangered	Known	**Show 16 linked vegetation classes**
Sminthopsis macroura	**Stripe-faced Dunnart**	**Sminthopsis macroura conservation project**	Animal > Marsupials	Vulnerable	Predicted	**Show 23 linked vegetation classes**

Swainsona sericea	**Silky Swainson-pea**	**Swainsona sericea conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 25 linked vegetation classes**
Tyto novaehollandiae	**Masked Owl**	**Tyto novaehollandiae conservation project**	Animal > Birds	Vulnerable	Predicted	**Show 66 linked vegetation classes**
Wilsonia rotundifolia	**Round-leafed Wilsonia**	**Wilsonia rotundifolia conservation project**	Plant > Shrubs	Endangered	Known	**Show 9 linked vegetation classes**
Anthochaera phrygia	**Regent Honeyeater**	**Anthochaera phrygia conservation project**	Animal > Birds	Critically Endangered	Known	**Show 50 linked vegetation classes**
Callocephalon fimbriatum	**Gang-gang Cockatoo**	**Callocephalon fimbriatum conservation project**	Animal > Birds	Vulnerable	Known	**Show 51 linked vegetation classes**
Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands	**Alteration to the natural flow regimes of rivers, streams, floodplains & wetlands.**	**Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Loss or degradation (or both) of sites used for hill-topping by butterflies	**Loss and/or degradation of sites used for hill-topping by butterflies**	**Loss or degradation (or both) of sites used for hill-topping by butterflies conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Predation by the Feral Cat Felis catus (Linnaeus, 1758)	**Predation by feral cats**	**Predation by the Feral Cat Felis catus (Linnaeus, 1758) conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	**Infection of frogs by amphibian chytrid causing the disease chytridiomycosis**	**Infection of frogs by amphibian chytrid causing the disease chytridiomycosis conservation project**	Threat > Disease	Key Threatening Process	Predicted	
Aprasia parapulchella	**Pink-tailed Legless Lizard**	**Aprasia parapulchella**	Animal >	Vulnerable		

		conservation project	Reptiles		Known	**Show 12 linked vegetation classes**
Austrostipa metatoris	**A spear-grass**	**Austrostipa metatoris conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 8 linked vegetation classes**
Botaurus poiciloptilus	**Australasian Bittern**	**Botaurus poiciloptilus conservation project**	Animal > Birds	Endangered	Known	**Show 18 linked vegetation classes**
Brachyscome muelleroides	**Claypan Daisy**	**Brachyscome muelleroides conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 2 linked vegetation classes**
Burhinus grallarius	**Bush Stone-curlew**	**Burhinus grallarius conservation project**	Animal > Birds	Endangered	Known	**Show 60 linked vegetation classes**
Climacteris picumnus victoriae	**Brown Treecreeper (eastern subspecies)**	**Climacteris picumnus victoriae conservation project**	Animal > Birds	Vulnerable	Known	**Show 45 linked vegetation classes**
Cullen parvum	**Small Scurf-pea**	**Cullen parvum conservation project**	Plant > Herbs and Forbs	Endangered	Known	**Show 4 linked vegetation classes**
Diuris sp. (Oaklands, D.L. Jones 5380)	**Oaklands Diuris**	**Diuris sp. (Oaklands, D.L. Jones 5380) conservation project**	Plant > Orchids	Endangered	Known	**Show 2 linked vegetation classes**
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	**Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions**	**Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions conservation project**	Community > Threatened Ecological Communities	Endangered Ecological Community	Known	**Show 2 linked vegetation classes**
Glossopsitta porphyrocephala	**Purple-crowned Lorikeet**	**Glossopsitta porphyrocephala**	Animal >	Vulnerable	Predicted	**Show 14 linked**

		conservation project	Birds			vegetation classes
Lathamus discolor	Swift Parrot	Lathamus discolor conservation project	Animal > Birds	Endangered	Known	Show 51 linked vegetation classes
Neophema pulchella	Turquoise Parrot	Neophema pulchella conservation project	Animal > Birds	Vulnerable	Known	Show 53 linked vegetation classes
Nyctophilus corbeni	Corben's Long-eared Bat	Nyctophilus corbeni conservation project	Animal > Bats	Vulnerable	Known	Show 41 linked vegetation classes
Pilularia novae-hollandiae	Austral Pillwort	Pilularia novae-hollandiae conservation project	Plant > Ferns and Cycads	Endangered	Known	Show 11 linked vegetation classes
Polytelis swainsonii	Superb Parrot	Polytelis swainsonii conservation project	Animal > Birds	Vulnerable	Known	Show 27 linked vegetation classes
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis conservation project	Animal > Birds	Vulnerable	Known	Show 47 linked vegetation classes
Pteropus poliocephalus	Grey-headed Flying-fox	Pteropus poliocephalus conservation project	Animal > Bats	Vulnerable	Known	Show 66 linked vegetation classes
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris conservation project	Animal > Bats	Vulnerable	Known	Show 87 linked vegetation classes
Swainsona murrayana	Slender Darling Pea	Swainsona murrayana conservation project	Plant > Herbs and Forbs	Vulnerable	Known	Show 17 linked vegetation classes
Infection by	Infection by	Infection by	Threat	Key		

Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations	**Psittacine circoviral (beak and feather) disease affecting endangered psittacine species**	**Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations conservation project**	> Disease	Threatening Process	Predicted	
Removal of dead wood and dead trees	**Removal of dead wood and dead trees**	**Removal of dead wood and dead trees conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Predation, habitat degradation, competition and disease transmission by Feral Pigs, Sus scrofa Linnaeus 1758	**Predation, habitat degradation, competition and disease transmission by Feral Pigs (*Sus scrofa*)**	**Predation, habitat degradation, competition and disease transmission by Feral Pigs, Sus scrofa Linnaeus 1758 conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Amphibromus fluitans	**Floating Swamp Wallaby-grass**	**Amphibromus fluitans conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 6 linked vegetation classes**
Austrostipa wakoolica	**A spear-grass**	**Austrostipa wakoolica conservation project**	Plant > Herbs and Forbs	Endangered	Known	**Show 10 linked vegetation classes**
Hylacola cautus	**Shy Heathwren**	**Hylacola cautus conservation project**	Animal > Birds	Vulnerable	Known	**Show 3 linked vegetation classes**
Calyptorhynchus lathami - endangered population	**Glossy Black-Cockatoo, Riverina population**	**Calyptorhynchus lathami - endangered population conservation project**	Animal > Birds	Endangered Population	Known	**Show 5 linked vegetation classes**
Cercartetus nanus	**Eastern Pygmy-possum**	**Cercartetus nanus conservation project**	Animal > Marsupials	Vulnerable	Predicted	**Show 62 linked vegetation classes**
Certhionyx variegatus	**Pied Honeyeater**	**Certhionyx variegatus conservation project**	Animal > Birds	Vulnerable	Known	**Show 23 linked vegetation classes**

Chalinolobus picatus	**Little Pied Bat**	**Chalinolobus picatus conservation project**	Animal > Bats	Vulnerable	Known	**Show 40 linked vegetation classes**
Climacteris affinis - endangered population	**White-browed Treecreeper population in Carrathool local government area south of the Lachlan River and Griffith local government area**	**Climacteris affinis - endangered population conservation project**	Animal > Birds	Endangered Population	Known	**Show 3 linked vegetation classes**
Grantiella picta	**Painted Honeyeater**	**Grantiella picta conservation project**	Animal > Birds	Vulnerable	Known	**Show 51 linked vegetation classes**
Melanodryas cucullata cucullata	**Hooded Robin (south-eastern form)**	**Melanodryas cucullata cucullata conservation project**	Animal > Birds	Vulnerable	Known	**Show 60 linked vegetation classes**
Melithreptus gularis gularis	**Black-chinned Honeyeater (eastern subspecies)**	**Melithreptus gularis gularis conservation project**	Animal > Birds	Vulnerable	Known	**Show 39 linked vegetation classes**
Oxyura australis	**Blue-billed Duck**	**Oxyura australis conservation project**	Animal > Birds	Vulnerable	Known	**Show 10 linked vegetation classes**
Pedionomus torquatus	**Plains-wanderer**	**Pedionomus torquatus conservation project**	Animal > Birds	Endangered	Known	**Show 3 linked vegetation classes**
Chthonicola sagittata	**Speckled Warbler**	**Chthonicola sagittata conservation project**	Animal > Birds	Vulnerable	Known	**Show 50 linked vegetation classes**
Senecio garlandii	**Woolly Ragwort**	**Senecio garlandii conservation project**	Plant > Herbs and Forbs	Vulnerable	Known	**Show 5 linked vegetation classes**
Stagonopleura guttata	**Diamond Firetail**	**Stagonopleura guttata conservation**	Animal >	Vulnerable		

		project	Birds		Known	**Show 54 linked vegetation classes**
Stictonetta naevosa	**Freckled Duck**	**Stictonetta naevosa conservation project**	Animal > Birds	Vulnerable	Known	**Show 14 linked vegetation classes**
Swainsona recta	**Small Purple-pea**	**Swainsona recta conservation project**	Plant > Herbs and Forbs	Endangered	Known	**Show 6 linked vegetation classes**
Tylophora linearis	***Tylophora linearis***	**Tylophora linearis conservation project**	Plant > Epiphytes and Climbers	Vulnerable	Known	**Show 6 linked vegetation classes**
Introduction of the Large Earth Bumblebee Bombus terrestris (L.)	**Introduction of the large earth bumblebee (*Bombus terrestris*)**	**Introduction of the Large Earth Bumblebee Bombus terrestris (L.) conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	**Ecological consequences of high frequency fires**	**High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Predation by the European Red Fox Vulpes Vulpes (Linnaeus, 1758)	**Predation by the European Red Fox**	**Predation by the European Red Fox Vulpes Vulpes (Linnaeus, 1758) conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Importation of Red Imported Fire Ants Solenopsis invicta Buren 1972	**Importation of red imported fire ants into NSW**	**Importation of Red Imported Fire Ants Solenopsis invicta Buren 1972 conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Clearing of native vegetation	**Clearing of native vegetation**	**Clearing of native vegetation conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Competition and grazing by the feral European Rabbit,	**Competition and grazing by the feral European rabbit**	**Competition and grazing by the feral European Rabbit,**	Threat >	Key Threatening	Predicted	

Oryctolagus cuniculus (L.)		**Oryctolagus cuniculus (L.) conservation project**	Pest Animal	Process		
Invasion and establishment of exotic vines and scramblers	**Invasion and establishment of exotic vines and scramblers**	**Invasion and establishment of exotic vines and scramblers conservation project**	Threat > Weed	Key Threatening Process	Predicted	
Loss of Hollow-bearing Trees	**Loss of Hollow-bearing Trees**	**Loss of Hollow-bearing Trees conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions	**Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions**	**Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions conservation project**	Community > Threatened Ecological Communities	Endangered Ecological Community	Predicted	**Riverine Sandhill Woodlands**
Crinia sloanei	**Sloane's Froglet**	**Crinia sloanei conservation project**	Animal > Amphibians	Vulnerable	Known	**Show 8 linked vegetation classes**
Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners	**Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners**	**Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners conservation project**	Threat > Other Threat	Key Threatening Process	Predicted	
Grevillea ilicifolia subsp. ilicifolia	**Holly-leaf Grevillea**	**Grevillea ilicifolia subsp. ilicifolia conservation project**	Plant > Shrubs	Critically Endangered	Predicted	**Show 3 linked vegetation classes**
Herbivory and environmental degradation caused by feral deer	**Herbivory and environmental degradation caused by feral deer**	**Herbivory and environmental degradation caused by feral deer conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Invasion of native plant communities by Chrysanthemoides monilifera	**Invasion of native plant communities by bitou bush & boneseed**	**Invasion of native plant communities by Chrysanthemoides monilifera conservation project**	Threat > Weed	Key Threatening Process	Predicted	
Invasion and establishment of	**Invasion and establishment of**	**Invasion and establishment of Scotch Broom**	Threat >	Key Threatening	Predicted	

Scotch Broom (Cytisus scoparius)	**Scotch Broom (*Cytisus scoparius*)**	**(Cytisus scoparius) conservation project**	Weed	Process		
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	**Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions**	**Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions conservation project**	Community > Threatened Ecological Communities	Endangered Ecological Community	Known	**Show 3 linked vegetation classes**
Glossopsitta pusilla	**Little Lorikeet**	**Glossopsitta pusilla conservation project**	Animal > Birds	Vulnerable	Known	**Show 54 linked vegetation classes**
Petroica phoenicea	**Flame Robin**	**Petroica phoenicea conservation project**	Animal > Birds	Vulnerable	Known	**Show 47 linked vegetation classes**
Petroica boodang	**Scarlet Robin**	**Petroica boodang conservation project**	Animal > Birds	Vulnerable	Known	**Show 56 linked vegetation classes**
Epthianura albifrons	**White-fronted Chat**	**Epthianura albifrons conservation project**	Animal > Birds	Vulnerable	Known	**Show 24 linked vegetation classes**
Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion	**Mallee and Mallee-Broombush dominated woodland and shrubland, lacking *Triodia*, in the NSW South Western Slopes Bioregion**	**Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion conservation project**	Community > Threatened Ecological Communities	Critically Endangered Ecological Community	Known	**Show 5 linked vegetation classes**
Calidris ferruginea	**Curlew Sandpiper**	**Calidris ferruginea conservation project**	Animal > Birds	Endangered	Known	**Show 11 linked vegetation classes**
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	**Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants**	**Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants conservation**	Threat > Weed	Key Threatening Process	Predicted	

		project				
Falco subniger	Black Falcon	Falco subniger conservation project	Animal > Birds	Vulnerable	Known	
Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners Manorina melanocephala	Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners *Manorina melanocephala*.	Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners Manorina melanocephala conservation project	Threat > Pest Animal	Key Threatening Process	Predicted	
Artamus cyanopterus cyanopterus	Dusky Woodswallow	Artamus cyanopterus cyanopterus conservation project	Animal > Birds	Vulnerable	Known	Show 104 linked vegetation classes
Caladenia arenaria	Sand-hill Spider Orchid	Caladenia arenaria conservation project	Plant > Orchids	Endangered	Known	Show 2 linked vegetation classes
Chalinolobus dwyeri	Large-eared Pied Bat	Chalinolobus dwyeri conservation project	Animal > Bats	Vulnerable	Predicted	Show 57 linked vegetation classes
Cinclosoma castanotum	Chestnut Quail-thrush	Cinclosoma castanotum conservation project	Animal > Birds	Vulnerable	Known	Show 4 linked vegetation classes
Diuris tricolor	Pine Donkey Orchid	Diuris tricolor conservation project	Plant > Orchids	Vulnerable	Known	Show 15 linked vegetation classes
Falco hypoleucos	Grey Falcon	Falco hypoleucos conservation project	Animal > Birds	Endangered	Known	Show 32 linked vegetation classes
Hamirostra melanosternon	Black-breasted Buzzard	Hamirostra melanosternon conservation project	Animal > Birds	Vulnerable	Known	Show 25 linked vegetation classes
Kippistia suaedifolia	Fleshy Minuria	Kippistia suaedifolia	Plant >	Endan		

		conservation project	Shrubs	gered	Known	Show 3 linked vegetation classes
Lepidium monoplocoides	Winged Peppercress	Lepidium monoplocoides conservation project	Plant > Herbs and Forbs	Endangered	Known	Show 15 linked vegetation classes
Limosa limosa	Black-tailed Godwit	Limosa limosa conservation project	Animal > Birds	Vulnerable	Known	Show 15 linked vegetation classes
Litoria raniformis	Southern Bell Frog	Litoria raniformis conservation project	Animal > Amphibians	Endangered	Known	Show 11 linked vegetation classes
Lophoictinia isura	Square-tailed Kite	Lophoictinia isura conservation project	Animal > Birds	Vulnerable	Known	Show 70 linked vegetation classes
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	Miniopterus schreibersii oceanensis conservation project	Animal > Bats	Vulnerable	Known	Show 74 linked vegetation classes
Myotis macropus	Southern Myotis	Myotis macropus conservation project	Animal > Bats	Vulnerable	Known	Show 68 linked vegetation classes
Ninox connivens	Barking Owl	Ninox connivens conservation project	Animal > Birds	Vulnerable	Known	Show 67 linked vegetation classes
Pachycephala inornata	Gilbert's Whistler	Pachycephala inornata conservation project	Animal > Birds	Vulnerable	Known	Show 14 linked vegetation classes
Petaurus norfolcensis - endangered population	Squirrel Glider in the Wagga Wagga Local Government Area	Petaurus norfolcensis - endangered population conservation project	Animal > Marsupials	Endangered Population	Known	Show 8 linked vegetation classes

Phascolarctos cinereus	**Koala**	**Phascolarctos cinereus conservation project**	Animal > Marsupials	Vulnerable	Known	**Show 62 linked vegetation classes**
Scoteanax rueppellii	**Greater Broad-nosed Bat**	**Scoteanax rueppellii conservation project**	Animal > Bats	Vulnerable	Known	**Show 57 linked vegetation classes**
Vespadelus baverstocki	**Inland Forest Bat**	**Vespadelus baverstocki conservation project**	Animal > Bats	Vulnerable	Known	**Show 13 linked vegetation classes**
White Box Yellow Box Blakely's Red Gum Woodland	**White Box Yellow Box Blakely's Red Gum Woodland**	**White Box Yellow Box Blakely's Red Gum Woodland conservation project**	Community > Threatened Ecological Communities	Endangered Ecological Community	Known	**Show 9 linked vegetation classes**
Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions	**Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions**	**Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions conservation project**	Community > Threatened Ecological Communities	Endangered Ecological Community	Known	**Show 5 linked vegetation classes**
Competition from feral honey bees, Apis mellifera L.	**Competition from feral honeybees**	**Competition from feral honey bees, Apis mellifera L. conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Bushrock removal	**Bushrock Removal**	**Bushrock removal conservation project**	Threat > Habitat Loss/Change	Key Threatening Process	Predicted	
Invasion of the Yellow Crazy Ant, Anoplolepis gracilipes (Fr. Smith) into NSW	**Invasion of the yellow crazy ant (*Anoplolepis gracilipes*) into NSW**	**Invasion of the Yellow Crazy Ant, Anoplolepis gracilipes (Fr. Smith) into NSW conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Anthropogenic Climate Change	**Human-caused Climate Change**	**Anthropogenic Climate Change conservation project**	Threat > Habitat	Key Threatening	Predicted	

			Loss/Change	Process		
Invasion and establishment of the Cane Toad (Bufo marinus)	**Invasion and establishment of the Cane Toad**	**Invasion and establishment of the Cane Toad (Bufo marinus) conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Acacia ausfeldii	**Ausfeld's Wattle**	**Acacia ausfeldii conservation project**	Plant > Shrubs	Vulnerable	Known	**Show 6 linked vegetation classes**
Philotheca angustifolia subsp. angustifolia	***Philotheca angustifolia* subsp. *angustifolia***	**Philotheca angustifolia subsp. angustifolia conservation project**	Plant > Shrubs	Presumed Extinct	Known	
Haliaeetus leucogaster	White-bellied Sea-Eagle	**Haliaeetus leucogaster conservation project**	Animal > Birds	Vulnerable	Known	**Show 68 linked vegetation classes**
Predation by Gambusia holbrooki Girard, 1859 (Plague Minnow or Mosquito Fish)	**Predation by the Plague Minnow (*Gambusia holbrooki*)**	**Predation by Gambusia holbrooki Girard, 1859 (Plague Minnow or Mosquito Fish) conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Competition and habitat degradation by Feral Goats, Capra hircus Linnaeus 1758	**Competition and habitat degradation by Feral Goats, *Capra hircus* Linnaeus 1758**	**Competition and habitat degradation by Feral Goats, Capra hircus Linnaeus 1758 conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Invasion of native plant communities by exotic perennial grasses	**Invasion of native plant communities by exotic perennial grasses**	**Invasion of native plant communities by exotic perennial grasses conservation project**	Threat > Weed	Key Threatening Process	Predicted	
Infection of native plants by Phytophthora cinnamomi	**Infection of native plants by *Phytophthora cinnamomi***	**Infection of native plants by Phytophthora cinnamomi conservation project**	Threat > Disease	Key Threatening Process	Predicted	
Invasion, establishment and spread of Lantana (Lantana camara L. sens. Lat)	**Invasion, establishment and spread of Lantana (*Lantana camara* L. *sens. lat*)**	**Invasion, establishment and spread of Lantana (Lantana camara L. sens. Lat) conservation project**	Threat > Weed	Key Threatening Process	Predicted	

Predation and hybridisation by Feral Dogs, Canis lupus familiaris	**Predation and hybridisation by Feral Dogs, Canis lupus familiaris**	**Predation and hybridisation by Feral Dogs, Canis lupus familiaris conservation project**	Threat > Pest Animal	Key Threatening Process	Predicted	
Hieraaetus morphnoides	**Little Eagle**	**Hieraaetus morphnoides conservation project**	Animal > Birds	Vulnerable	Known	**Show 99 linked vegetation classes**
Circus assimilis	**Spotted Harrier**	**Circus assimilis conservation project**	Animal > Birds	Vulnerable	Known	**Show 58 linked vegetation classes**
Daphoenositta chrysoptera	**Varied Sittella**	**Daphoenositta chrysoptera conservation project**	Animal > Birds	Vulnerable	Known	**Show 80 linked vegetation classes**
Invasion of native plant communities by African Olive Olea europaea subsp. cuspidata (Wall. ex G. Don) Cif.	**Invasion of native plant communities by African Olive Olea europaea subsp. cuspidata (Wall. ex G. Don) Cif.**	**Invasion of native plant communities by African Olive Olea europaea subsp. cuspidata (Wall. ex G. Don) Cif. conservation project**	Threat > Weed	Key Threatening Process	Predicted	

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : Jindera 17-323
Client Service ID : 361363

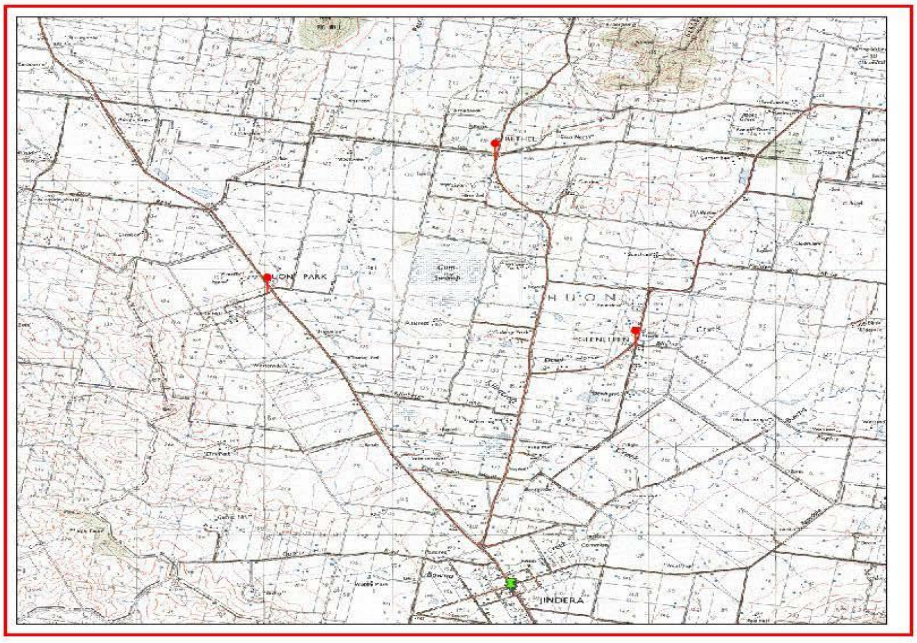
Jessie Whieldon
Suite 1, 39 Fitzmaurice Street
Wagga Wagga New South Wales 2650
Attention: Jessie Whieldon
Email: jessie.w@nghenvironmental.com.au

Date: 01 August 2018

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -35.9417, 146.8141 - Lat, Long To : -35.8603, 146.9429 with a Buffer of 1000 meters, conducted by Jessie Whieldon on 01 August 2018.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

7	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

3 Marist Place, Parramatta NSW 2150
Locked Bag 5020 Parramatta NSW 2220
Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

Office of Environment & Heritage

AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : 17-323
Client Service ID : 361593

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
55-6-0003	Jindera;	AGD	55	489701	6021192	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	276,363
	Contact	**Recorders**	ASRSYS					**Permits**		
55-6-0004	Jindera;	AGD	55	492885	6022687	Open site	Valid	Artefact : -	Open Camp Site	54,276
	Contact	**Recorders**	ASRSYS					**Permits**		
55-6-0005	Jindera;	AGD	55	493809	6021691	Open site	Valid	Artefact : -	Open Camp Site	54
	Contact	**Recorders**	ASRSYS					**Permits**		
55-6-0041	ABP/NSW 5	AGD	55	492840	6020080	Open site	Valid	Artefact : 4		
	Contact	**Recorders**	Joanne Bell					**Permits**		
55-6-0042	ABP/NSW 6	AGD	55	492800	6020120	Open site	Valid	Artefact : 1		
	Contact	**Recorders**	Joanne Bell					**Permits**		
55-6-0098	Drumwoord Road Test Ex	GDA	55	490400	6021900	Open site	Valid	Artefact : 10		46,103621
	Contact	**Recorders**	Mr.Oliver Brown					**Permits**	3918	

Report generated by AHIMS Web Service on 02/08/2018 for Amy Ziesing for the following area at Lat, Long From : -35.9628, 146.8051 - Lat, Long To : -35.8642, 146.9355 with a Buffer of 50 meters. Additional Info : To inform an Aboriginal Cultural Heritage Assessment. Number of Aboriginal sites and Aboriginal objects found is 6

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 1 of 1

Search Results

12 results found.

Billabong Creek (in part) Rand Walbundrie Rd	Walbundrie, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Holbrook Conservation Area Albury St	Holbrook, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Murray Valley Flood Plain (part) Riverina Hwy	Howlong, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Pioneer Museum Urana Rd	Jindera, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Pioneer Museum Group Urana Rd	Jindera, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Railway Station Group Olympic Way	Gerogery, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
School of Arts and War Memorial Main Street	Brocklesby, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Tabletop Nature Reserve	Table Top, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Wagners Store Urana Rd	Jindera, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Walbundrie School (former)	Walbundrie, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

Woomargama Dora Dora Forest Woomargama Dora Dora Rd	Holbrook, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Yarra Yarra Homestead and Outbuildings Yarra Yarra Rd	Holbrook, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Report Produced: Tue Jul 31 14:01:17 2018

Office of Environment & Heritage

Home > Topics > Heritage places and items > Search for heritage

Search for NSW heritage

Return to search page where you can refine/broaden your search.

Statutory listed items

Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by the Heritage Division.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the NSW Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the NSW Heritage Act. This information is provided by the Heritage Division.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act, 1979 and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search returned 1 record.

Aboriginal place name	Local government area	Local Aboriginal Land Council	Latitude	Longitude	Gazettal date and page numbers	Comments
Doodle Corner	Greater Hume	Wagga Wagga	-35.539914	147.002628	10/14/2016 p. 2769	

Section 2. Items listed under the NSW Heritage Act.

Your search returned 4 records.

Item name	Address	Suburb	LGA	SHR
Coppabella Blacksmith Shop, Stables and Burial Plot		Rosewood	Greater Hume	00620
Culcairn Railway Station and yard group	Main Southern railway	Culcairn	Greater Hume	01126
Gerogery Railway Station group	Main Southern railway	Gerogery	Greater Hume	01148
Henty Railway Station and yard group	Main Southern railway	Henty	Greater Hume	01169

Section 3. Items listed by Local Government and State Agencies.

Your search returned 81 records.

Item name	Address	Suburb	LGA	Information source
Alma Park / Wallendool School (Former)		Alma Park	Greater Hume	LGOV
Alma Park Lutheran Church		Alma Park	Greater Hume	LGOV
Bakery Shop	60 Balfour Street	Culcairn	Greater Hume	LGOV
Bethanga Bridge over the Murray River	Riverina Highway (SH 20)	Albury	Greater Hume	SGOV
CBC Bank	Albury Street	Holbrook	Greater Hume	LGOV
Coffee Palace	Albury Street	Holbrook	Greater Hume	LGOV
Cookardinia Hotel		Cookardinia	Greater Hume	LGOV
Cookardinia Memorial Hall		Cookardinia	Greater Hume	LGOV
Courthouse	Albury Street	Holbrook	Greater Hume	LGOV
Criterion Hotel (former)	Albury Street	Holbrook	Greater Hume	LGOV
Culcairn Conservation Area	Balfour Street	Culcairn	Greater Hume	LGOV
Culcairn Court House/ Police Building	Balfour Street	Culcairn	Greater Hume	LGOV
Culcairn Hotel	Railway Parade	Culcairn	Greater Hume	LGOV
Culcairn Memorial Hall	25 Balfour Street	Culcairn	Greater Hume	LGOV
Culcairn Police Station and Official Residence	33 Balfour Street	Culcairn	Greater Hume	SGOV
Culcairn Railway Conservation Area		Culcairn	Greater	LGOV

			Hume	
Culcairn Railway Precinct	Melville Street	Culcairn	Greater Hume	SGOV
Culcairn Railway Precinct	Melville Street	Culcairn	Greater Hume	SGOV
Culcairn Street Trees Poplars	Culcairn - Walbundrie and Culcairn - Holbrook Roa	Culcairn	Greater Hume	LGOV
Doodle Cooma Arms Hotel	Sladen Street	Henty	Greater Hume	LGOV
Gerogery Gatekeeper's Residence	Main Street	Gerogery	Greater Hume	SGOV
Goodwood Shearing Shed and Piese Dwelling		(not given)	Greater Hume	LGOV
Hand dug brick lined well	Edward Street	Culcairn	Greater Hume	LGOV
Henty Central Hotel	Allan Street	Henty	Greater Hume	LGOV
Henty Conservation Area		(not given)	Greater Hume	LGOV
Henty Police Station and Official Residence	41 Sladen Street	Henty	Greater Hume	SGOV
Henty Railway Conservation Area		(not given)	Greater Hume	LGOV
Henty Railway Precinct	Railway Parade	Henty	Greater Hume	SGOV
Henty Railway Precinct	Railway Parade	Henty	Greater Hume	SGOV
Holbrook Conservation Area (1)		Holbrook	Greater Hume	LGOV
Holbrook Conservation Area (2)		Holbrook	Greater Hume	LGOV
Holbrook Courthouse and Residence	Albury Street	Holbrook	Greater Hume	SGOV

Holbrook Hotel	Albury Street	Holbrook	Greater Hume	LGOV
Holbrook Police Station and Lockup Keeper's Residence	64 Albury Street	Holbrook	Greater Hume	SGOV
Holbrook Stores		Holbrook	Greater Hume	LGOV
Kirbys Bridge over Majors Creek	Riverina Highway	4.8 km east of Howlong	Greater Hume	SGOV
Knox Presbyterian Church		Holbrook	Greater Hume	LGOV
Mackie & Son Stores	Albury Street	Holbrook	Greater Hume	LGOV
Morgan's Lookout		Walla Walla	Greater Hume	LGOV
Old School Building	Queen Street	Walbundrie	Greater Hume	LGOV
Parramatta Archaeological Management Unit 3140	The Great Western Highway	Mays Hill	Holroyd	LGOV
Police Station	Albury Street	Holbrook	Greater Hume	LGOV
Presbyterian Church (former)	Hume Street	Holbrook	Greater Hume	LGOV
Presbyterian Manse (former)	40 Allan Street	Henty	Greater Hume	LGOV
Residence	4 Keightley Street	Henty	Greater Hume	LGOV
Riverina Hotel	Albury Street	Holbrook	Greater Hume	LGOV
Ross Buildings	Albury Street	Holbrook	Greater Hume	LGOV
Round Hill Hotel	Brownrigg Street	Morven	Greater Hume	LGOV
Scholz's Corner	Balfour Street	Culcairn	Greater Hume	LGOV

Shop	Albury Street	Holbrook	Greater Hume	LGOV
St. Clare's Convent	Albury Street	Holbrook	Greater Hume	LGOV
Ten Mile Creek Bridge	Hume Highway	Holbrook	Greater Hume	SGOV
Timber Cottage and Shop	Albury Street	Holbrook	Greater Hume	LGOV
Union Bridge over Murray River	Hume Highway (SH 2)	Albury	Greater Hume	SGOV
Vokins Creek Bridge	Little Billabong Road	54.4 km west of Tumbarumba	Greater Hume	SGOV
Walbundrie Hotel	Billabong Street	Walbundrie	Greater Hume	LGOV
Walla Walla Library Institute and Memorial Halls	Commercial Street	Walla Walla	Greater Hume	LGOV
William Bros Saddlery and two storey building at rear	Albury Street	Holbrook	Greater Hume	LGOV
Woolpack Inn Museum	Albury Street	Holbrook	Greater Hume	LGOV
Wymah Ferry Crossing on the Murray River	Main Road 282	Wymah	Greater Hume	SGOV
Yarra Yarra Homestead		Holbrook	Greater Hume	LGOV

There was a total of 66 records matching your search criteria.

Key:
LGA = Local Government Area
GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.
Note: While the Heritage Division seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

Greater Hume Local Environmental Plan 2012

Current version for 20 April 2018 to date (accessed 31 July 2018 at 14:01)

Schedule 5

Schedule 5 Environmental heritage

(Clause 5.10)

Part 1 Local heritage items

Locality	Item name	Address	Property description	Significance	Item no
Alma Park	Alma Park Lutheran Cemetery	5 Alma Park Cemetery Road	Part Lot 90, DP 753760 (within Lot 1, DP 571659)	Local	I1
Alma Park	Alma Park School (demolished)	Walla Park-Alma Park Road	Lot 7004, DP 1024193	Local	I2
Bowna	The Church of The Pioneers	Bowna Road	Lot 191, DP 617720	Local	I5
Bowna	Old Bowna Cemetery	211"Willow Park", Plunkett Road	Lot 1, DP 910044	Local	I6
Bowna	"Wollindina" (Federation homestead)	1976 Wymah Road	Lot 2, DP 527216	Local	I4
Brocklesby	Church (ruin)	Ellis Street	Lot 1, DP 923072	Local	I8
Brocklesby	"Brocklesby Park", homestead	1985 Kywong-Howlong Road	Lot 1, DP 1093990; Lot 65, DP 753724	Local	I7
Brocklesby	School of Arts and War Memorial Hall	89 Main Street	Lot 15, DP 4851	Local	I10
Brocklesby	Post Office and store	97–99 Main Street	Lot 1, DP 606948	Local	I9
Brocklesby	"The Olives" (house and barn)	Kenya Road/Brocklesby-Howlong Road	Lot 1, DP 538446	Local	I11
Bulgandry	"Goodwood", shearing shed and dwelling	140 Goodwood Fullers Road	Lot 1, DP 559286	Local	I12
Bungowannah	"Boxwood Park" (homestead and shearing shed)	149 Boxwood Park Road	Lot 56, DP 753749	Local	I13
Bungowannah	"Deere Park", homestead	1315 "Park Hill" Bungowannah Road	Lot 115, DP 753727	Local	I18
Bungowannah	Methodist Church (later Uniting Church)	1432 Bungowannah Road	Lot 3, DP 817389	Local	I21
Bungowannah	Bungowannah General Cemetery	Cemetery Road	Lot 1, DP 668472; Lot 7006, DP 1060550; Lot 7004, DP 1060549	Local	I15

Bungowannah	"The Cedars"	116 Chambers Road	Lots 93 and 289, DP 753727	Local	I24
Bungowannah	Bungowannah Community Hall	Bungowannah Reserve, 168 Chambers Road	Lot 7004, DP 1028256; Lot 279, DP 753727	Local	I14
Bungowannah	"Hillgrove", homestead	Ferguson Road	Lot 82, DP 753749	Local	I19
Bungowannah	"Weebo Park" (homestead, garden and outbuildings)	89 Hovell Road	Lot 49, DP 753749	Local	I25
Bungowannah	St Mark's Anglican Church	1 Kensall Green Road	Part Lot 19, DP 753727	Local	I23
Bungowannah	"Culverley Rise", homestead	198 Mayfield Road	Lot 7, DP 665615	Local	I17
Bungowannah	Bungowannah School (former)	119 Methodist Road	Lot 238, DP 753727	Local	I16
Bungowannah	Proctor's Old Pub (Bromley)	3134 Riverina Highway	Lot 1, DP 1091520	Local	I22
Bungowannah	"Mayfield", homestead	3859 Riverina Highway	Lot 2, DP 1104123	Local	I20
Burrumbuttock	"Orelda" (homestead and outbuildings)	623 Burrumbuttock-Brocklesby Road	Lot 49, DP 657589	Local	I34
Burrumbuttock	Hardwicke Remnant Woodland	3102 Burrumbuttock-Walbundrie Road	Lot 175, DP 753730	Local	I31
Burrumbuttock	Burrumbuttock General Cemetery (at Holy Cross Lutheran Church)	Howlong-Burrumbuttock Road	Lot 7300, DP 1142667	Local	I26
Burrumbuttock	Government dam	Howlong-Burrumbuttock Road	Lot 7006, DP 1052657	Local	I30
Burrumbuttock	Holy Cross Lutheran Church and Hall	Howlong-Burrumbuttock Road	Lot 158, DP 753730	Local	I32
Burrumbuttock	"Holyrood" (homestead and outbuildings)	1726 Howlong-Burrumbuttock Road	Lot 2, DP 854070	Local	I33
Burrumbuttock	Church (former)	46 Urana Road	Lot 5, DP 9579	Local	I29
Burrumbuttock	Burrumbuttock Public Hall	502 Urana Road	Lot 171, DP 753730	Local	I28
Burrumbuttock	"Burrumbuttock", homestead	3102 Urana Road	Lot 175, DP 753730	Local	I27
Cookardinia	Chalmer's Church	153 Mahers Lane, off Wagga Wagga Road	Lots 160 and 161, DP 753344	Local	I35
Cookardinia	Cookardinia General Cemetery	153 Mahers Road	Lots 1–7, DP 1041131	Local	I36
Cookardinia	Cookardinia Hotel (ruin)	Morven- Cookardinia Road	Lot 5, DP 753344	Local	I37
Cookardinia	Cookardinia Memorial Hall	2164 Holbrook Wagga Road	Lot 96, DP 753344	Local	I38

Coppabella	Coppabella Blacksmith Shop, stables and family burial plot	Coppabella Station, Coppabella Road	Part Lot 111, DP 748438	State	I39
Culcairn	Culcairn Court House and police building	Balfour Street	Lot 1, DP 772492	Local	I41
Culcairn	Scholz's Corner	Balfour Street	Lot 10, DP 2582	Local	I51
Culcairn	St Paul's Anglican Church Rectory	9 Balfour Street	Lot 3, Section 13, DP 5886	Local	I53
Culcairn	St Paul's Anglican Church	11 Balfour Street	Lots 1 and 2, Section 13, DP 5886	Local	I52
Culcairn	Memorial Hall and School of Arts	25 Balfour Street	Lot 1, DP 318245; Lot 1, Section 8, DP 3870	Local	I48
Culcairn	Post Office	33 Balfour Street	Lot 21, DP 774721	Local	I50
Culcairn	London Bank	39 Balfour Street	Lot 1, Section 2, DP 302424; Lot 1, Section 2, DP 971652	Local	I46
Culcairn	Papworth's Bakery shop	66 Balfour Street	Lot 3, DP 667320	Local	I49
Culcairn	Culcairn General Cemetery	Cemetery Road	Lot 7001, DP 1051423; Lot 7006, DP 1054418	Local	I42
Culcairn	Street trees	Poplars—Culcairn-Walbundrie Road and Culcairn- Holbrook Road (MR331) and palms in centre of Balfour Street		Local	I54
Culcairn	Town well	Gordon Street	Lot 1, DP 858931	Local	I55
Culcairn	John McLean's Grave	Near "Old Round Hill", Holbrook Road	Lot 1, DP 949370	Local	I45
Culcairn	Masonic Hall	32 Kirndeen Street	Lot 12, Section 12, DP 5886	Local	I47
Culcairn	Culcairn Railway Station and yard group	Main Southern Railway	Lot 1, DP 819838	State	I44
Culcairn	Billabong Creek Public Swimming Pool	Jubilee Park, Olympic Highway	Lot 41, DP 633394	Local	I40
Culcairn	Culcairn Hotel	37 Railway Parade	Lots 11–16, DP 2582	Local	I43
Gerogery	"Gerogery East" (homestead and shearing shed)	501 Coach Road	Lot 32, DP 753731	Local	I58
Gerogery	"Huondale" (formerly "Gerogery")	1906 Gerogery Road	Lot 234, DP 753339	Local	I60
Gerogery	Gerogery Railway Station group	Main Southern Railway	Lots 1 and 2, DP 792545; Lot 5, DP 853332	State	I61
Gerogery	Gerogery Hotel	Main Street	Lot 1, DP 570215	Local	I59

Gerogery	Gerogery Commemoration Hall	Station Street	Lot 3, DP 913033	Local	I57
Gerogery	Anglican Church (former)	West Street	Lots 16 and 17, DP 758435	Local	I56
Gerogery West	St Peter's Lutheran Church	925 Glenellen Road	Part Lot A, DP 915738	Local	I64
Gerogery West	St Peter's Lutheran Church Cemetery	925 Glenellen Road	Part Lot A, DP 915738	Local	I65
Gerogery West	Gerogery West General Cemetery	Greenwood Road (corner McLeod Street)	Lot 7009, DP 1056013	Local	I62
Gerogery West	Gerogery West School (former)	3 Greenwood Road	Lots 198 and 200, DP 753339	Local	I63
Glenellen	Bethel Trinity Lutheran Church and Cemetery	595 Bethel Road	Lot B, DP 187900	Local	I3
Glenellen	Glenellen School (former)	Glenellen Road	Lots 192 and 205, DP 753342	Local	I67
Glenellen	Big Gum Swamp	Sparkes Road	Lot 168, DP 753342	Local	I66
Goombargana	Goombargana General Cemetery	Balldale- Walbundrie Road	Lot 7003, DP 1057087; Lots 7300 and 7301, DP 1144089; Lot 1, DP 1144898; Lot 1, DP 1144906	Local	I68
Henty	Police station	Allan Street	Lot 1, DP 1155039	Local	I83
Henty	Shop (former)	2–8 Allan Street	Lot 1, DP 1063795	Local	I86
Henty	Henty Central Hotel (and stables)	20 Allan Street	Lots 8 and 9, Section 5, DP 758514	Local	I76
Henty	Presbyterian Manse (former)	40 Allan Street	Lot 9, Section 9, DP 758514	Local	I84
Henty	Catholic convent (former)	7 Day Street	Lot 2, DP 577991	Local	I70
Henty	Catholic Presbytery (former)	13A Day Street (Corner Allan Street)	Lots 9 and 10, Section A, DP 3990	Local	I71
Henty	Henty General Cemetery	Grubben Road	Lot 7015, DP 1025259; Lot 7304, DP 1140232	Local	I77
Henty	Government dam	Henty Pleasant Hills Road	Lot 1, DP 1112743	Local	I74
Henty	Henty Showground, stables and gate	Henty Pleasant Hills Road	Lots 208, 239 and 247, DP 753741	Local	I79
Henty	Thomas Smyth Memorial	Henty Pleasant Hills Road		Local	I90
Henty	Methodist Church (later Uniting Church)	Ivor Street	Lots 11 and 12, Section A, DP 5282	Local	I82
Henty	St Barnabas Anglican Church	36 Ivor Street	Lots 11 and 12, Section 10, DP 758514	Local	I87

Henty	Masonic Hall	45 Ivor Street	Lot 17, Section A, DP 5282	Local	I81
Henty	Brick house	4 Keightley Street	Lot 13, Section 6, DP 758514	Local	I69
Henty	Shop (former)	5 Keightley Street	Lot 5, Section 7, DP 1078460	Local	I85
Henty	St Patrick's Catholic Church and belfry	Keirath Street	Lot 91, DP 542468	Local	I88
Henty	Christian Brothers' Monastery (former)	10 Keirath Street	Lots 13 and 14, Section A, DP 3990; Lot 1, DP 1090249	Local	I72
Henty	Headlie Taylor, header shed and blacksmith shop	Wattlegrove, 99 Kendalls Road	Lot 140, DP 753741	Local	I75
Henty	St Paul's Lutheran School	30 Lyne Street	Lot 179, DP 665536	Local	I89
Henty	Henty Railway Station and yard group	Main Southern Railway	Lot 1, DP 878288	State	I78
Henty	Horse trough	Henty Bicentennial Park, Railway Parade	Lot 1, DP 878288 (ARTC Lease No 86–1188)	Local	I80
Henty	Doodle Cooma Arms Hotel	2 Sladen Street	Lot 1, DP 946953	Local	I73
Holbrook	Police station	62 Albury Street	Lot 3, Section 2, DP 758522; Lot 12, DP 2325	Local	I108
Holbrook	Courthouse (former post office)	64 Albury Street	Lot 3, Section 2, DP 758522	Local	I94
Holbrook	CBC Bank (former)	68 Albury Street	Lot 2, DP 560948	Local	I93
Holbrook	Ross Buildings	70–74 Albury Street	Lots Z and Y, DP 101975; Lot 32, DP 566695	Local	I112
Holbrook	Mackie & Son stores	76 Albury Street (corner Hay Street)	Lot 31, DP 566695	Local	I104
Holbrook	Gold assay office	79 Albury Street	Lot 1, DP 997504	Local	I96
Holbrook	Shop	81A Albury Street	Lot 12, DP 551397	Local	I113
Holbrook	Horse and dog trough	83 Albury Street (footpath in front of Woolpack Inn)		Local	I101
Holbrook	Woolpack Inn Museum (former Criterion Hotel)	83 Albury Street	Lot 11, DP 551397; Lot 1, DP 971953	Local	I125
Holbrook	Knox Presbyterian Church and Hall	108 Albury Street	Lots 74, 75 and 274, DP 753340	Local	I102
Holbrook	Presbyterian Church (former)	108 Albury Street	Part Lot 74, DP 753340	Local	I109

Holbrook	Timber shop and cottage	113 Albury Street	Lot F, DP 3633	Local	I119
Holbrook	Peter Pan Building	123–129 Albury Street	Lot 2, DP 204191	Local	I107
Holbrook	Riverina Hotel	131–133 Albury Street	Lot 3, DP 716164	Local	I111
Holbrook	Holbrook Hotel	144 Albury Street	Lot 1, DP 543149	Local	I98
Holbrook	Our Lady of Sorrows Catholic Church	145 Albury Street	Lots 1 and 2, Section E, DP 4843; Lot 1, DP 335174	Local	I106
Holbrook	St Clare's Catholic Convent	145 Albury Street	Lots 1 and 2, Section E, DP 4843; Lot 1, DP 335174	Local	I114
Holbrook	St Patrick's Catholic School	145 Albury Street	Lot 1, DP 956575; Lots 7 and 8, DP 4045; Lot 2, DP 500773	Local	I115
Holbrook	Holbrook Stores	155 Albury Street	Part Lot 13, DP 827736	Local	I100
Holbrook	William Bros Saddlery	155 Albury Street	Part Lot 13, DP 827736	Local	I124
Holbrook	HMS Otway (submarine display)	159 Albury Street	Lot 2, DP 831081	Local	I117
Holbrook	Submarine, scale model	163 Albury Street	Lot 10, DP 571557	Local	I118
Holbrook	Holbrook General Cemetery	Bath Street	Lots 7008 and 7009, DP 1025562	Local	I97
Holbrook	Presbyterian manse (later public hospital)	Bowler Street	Lot 12, DP 1055714	Local	I110
Holbrook	Log Cabin Scout Hall	63 Bowler Street	Lot B, DP 441663	Local	I103
Holbrook	Germanton Courier	2 Hay Street	Lot 2, DP 212947	Local	I95
Holbrook	Anglican Rectory (former)	78 Jingellic Road	Lot 1, DP 995361	Local	I91
Holbrook	"Annandayle", homestead	590 Jingellic Road	Lot 4, DP 668631	Local	I92
Holbrook	Masonic Hall (former)	19–21 Nyhan Street	Lots 1 and 2, Section 14, DP 758522	Local	I105
Holbrook	St Paul's Anglican Church	38 Young Street	Lot 11, DP 736838	Local	I116
Holbrook	Holbrook Shire Hall	40 Young Street	Lots 2 and 4, Section 7, DP 758522; Lot 13, DP 736838	Local	I99
Holbrook	Weatherboard cottage	55 Young Street	Lot 227, DP 753340	Local	I120
Holbrook	Weatherboard cottage	57 Young Street	Lot 228, DP 753340	Local	I121
Holbrook	Weatherboard cottage	59 Young Street	Lot 229, DP 753340	Local	I122
Jindera	St John's Lutheran Church	148–150 Adams Street (corner Jindera Street)	Lot 1, DP 852943	Local	I137
Jindera	Police stables	Creek Street	Lot 22, DP 1101212	Local	I135

Jindera	Jindera General Cemetery	Corner Drumwood Road and Hannah Lane	Lot 7300, DP 1150454	Local	I131
Jindera	"Drumwood" (homestead and outbuildings)	234 Drumwood Road	Lot 102, DP 791421	Local	I128
Jindera	St John's Lutheran Cemetery	52 Luther Road	Lot 1, DP 515629	Local	I136
Jindera	Bethlehem Lutheran Cemetery	Pioneer Drive	Lot 1, DP 562571	Local	I127
Jindera	Elm Park (homestead, garden and outbuildings)	1633 Urana Road	Lot 143, DP 753345	Local	I129
Jindera	"Westerndale"	1787 Urana Road	Lots 1 and 2, DP 1011953	Local	I139
Jindera	Government dam	Urana Street	Lot 7001, DP 1069408	Local	I130
Jindera	Blacksmiths shop	Urana Street	Lot 2, DP 850928	Local	I126
Jindera	Police residence (former) and outbuildings	79 Urana Street	Lot 21, DP 1101212	Local	I134
Jindera	Jindera School of Arts	109 Urana Street	Lot 2, DP 359059; Lot 1, DP 919200; Lot 1, DP 187641; Lot 10, DP 331967	Local	I132
Jindera	St Paul's Anglican Church	102–112 Urana Street	Lot 4, Section 10, DP 758544	Local	I138
Jindera	Pioneer Museum (Wagners Store) and outbuildings	114–116 Urana Street	Lots 2 and 8–10, Section 10, DP 758544	Local	I133
Moorwatha	St Mary's Church (ruin)	Howlong-Burrumbuttock Road	Lot 91, DP 753749	Local	I141
Moorwatha	Moorwatha General Cemetery	951 Howlong-Burrumbuttock Road	Lots 1 and 2, DP 1124774	Local	I140
Morebringer	"Burnside" (homestead and outbuildings, pine log barn and dairy)	1009 Howlong-Balldale Road	Lot 88, DP 753745	Local	I142
Morven	Morven Hall (ruin)	Brownrigg Street	Lot 5, Section 3, DP 758711	Local	I144
Morven	Round Hill Hotel and stable (Cobb & Co staging post)	38–40 Brownrigg Street	Lots 9 and 10, Section 32, DP 758711; Lots 9 and 10, DP 112808	Local	I143
Morven	Timber Slab Anglican Church	39 Mate Street	Lot 2, Section 11, DP 758711	Local	I145
Mountain Creek	"Mountain View"	1737 Mountain Creek Road	Lot 2, DP 222074	Local	I146

Mullengandra	Mullengandra General Cemetery	Hume Highway	Lots 7301 and 7302, DP 1159453; Lot 7004, DP 1081896; Lots 10–12, DP 112032	Local	I147
Mullengandra	"Mullengandra" (homestead and outbuildings)	329 Mountain Creek Road	Lot 6, DP 602985	Local	I148
Mullengandra	St Luke's Anglican Church	Shea Road	Lot 1, DP 997081	Local	I151
Mullengandra	Royal Oak Hotel (former)	19 Shea Road	Lot 1, DP 770488	Local	I150
Mullengandra	"Mullengandra" (station and outbuildings)	35 Sweetwater Road	Lot 20, DP 1132237	Local	I149
Table Top	"Table Top Station" (homestead and outbuildings)	115 Burma Road	Lot 3, DP 1070024	Local	I152
Walbundrie	Walbundrie Hotel	Billabong Street	Lots 3 and 4, Section 3, DP 759034	Local	I155
Walbundrie	Church of The Good Shepherd, Catholic Church	Corner Billabong Street and Queen Street	Lot 2, Section 14, DP 759034	Local	I153
Walbundrie	Walbundrie School (former)	Corner Queen Street and Billabong Street	Lot 1, Section 13, DP 759034	Local	I156
Walbundrie	Walbundrie General Cemetery	Urana Road	Lots 1–6, DP 115149; Lot 7303, DP 1142406	Local	I154
Walla Walla	German pioneer wagon	Commercial Street	Lot 121, DP 871068	Local	I158
Walla Walla	Zion Lutheran Church and manse	Commercial Street	Lot 1222, DP 1140009	Local	I164
Walla Walla	First Lutheran School and cottage	23 Commercial Street	Lot 1, DP 6587	Local	I157
Walla Walla	Walla Walla Literary Institute and Memorial Hall	72 Commercial Street	Lot 2, DP 6177; Lot A, DP 411520	Local	I163
Walla Walla	St Mary's Catholic Church	10 Market Street	Lot 26, DP 2551	Local	I160
Walla Walla	Walla Walla General Cemetery	Walla Cemetery Road	Lot 2, DP 344975	Local	I161
Walla Walla	"Walla Walla" homestead	28 Walla Road (corner Culcairn- Walbundrie Road)	Lot 104, DP 753764	Local	I162
Walla Walla	Morgan's Lookout	Walla Walla Road	Lot 104, DP 753764	Local	I159
Wantagong	Yarra Yarra Cemetery	633 Yarra Yarra Road	Part Lots 5 and 10, DP 23436	Local	I173
Wantagong	"Yarra Yarra" (homestead and outbuildings)	633 Yarra Yarra Road	Part Lots 5 and 10, DP 23436	Local	I174

Woomargama	St Mark's Anglican Church	2–4 Hay Street	Lots 1 and 2, Section 5, DP 759118	Local	I165
Woomargama	Woomargama General Cemetery and town common	Hume Highway	Lot 7006, DP 1027381	Local	I166
Woomargama	Woomargama Hotel	Hume Highway	Lot 2, DP 1080671; Lot 3, Section 2, DP 759118	Local	I167
Woomargama	Woomargama Public School (former)	Melbourne Street	Lot 2, Section 7, DP 759118	Local	I168
Wymah	Isolated grave	"Warragai", 1949 Bowna-Wymah Road	Lot 1, DP 527212	Local	I169
Wymah	Wymah Cemetery	"Warragai", 1949 Bowna-Wymah Road	Lot 7007, DP 1023686	Local	I170
Wymah	Wymah Ferry	Wymah Ferry Road, Murray River		Local	I171
Wymah	Wymah Public School (former)	2444 Wymah Road	Lot 209, DP 47547	Local	I172

Part 2 Heritage conservation areas

Name of Heritage Conservation Area	Identification of Heritage Map	Significance
Nil		

Part 3 Archaeological sites

Locality	Item name	Address	Property description	Significance	Item No
Brocklesby	Brocklesby General Cemetery	Balldale Road	Lot 209, DP 753724	Local	A1
Bulgandry	Gold mines	207 Fullers Road	Lot 2, DP 789670	Local	A2
Jindera	Hawthorn Cottage (ruin)	Hawthorn Road (corner Urana Road)	Lot 12, DP 791220	Local	A3

7/31/2018 DECCW | Search results

Home Contaminated land Record of notices

Search results

Your search for:LGA: Greater Hume Shire Council

Search Again
Refine Search

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register

31 July 2018

For business and industry

For local government

Contact us

131 555 (tel:131555)

info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)

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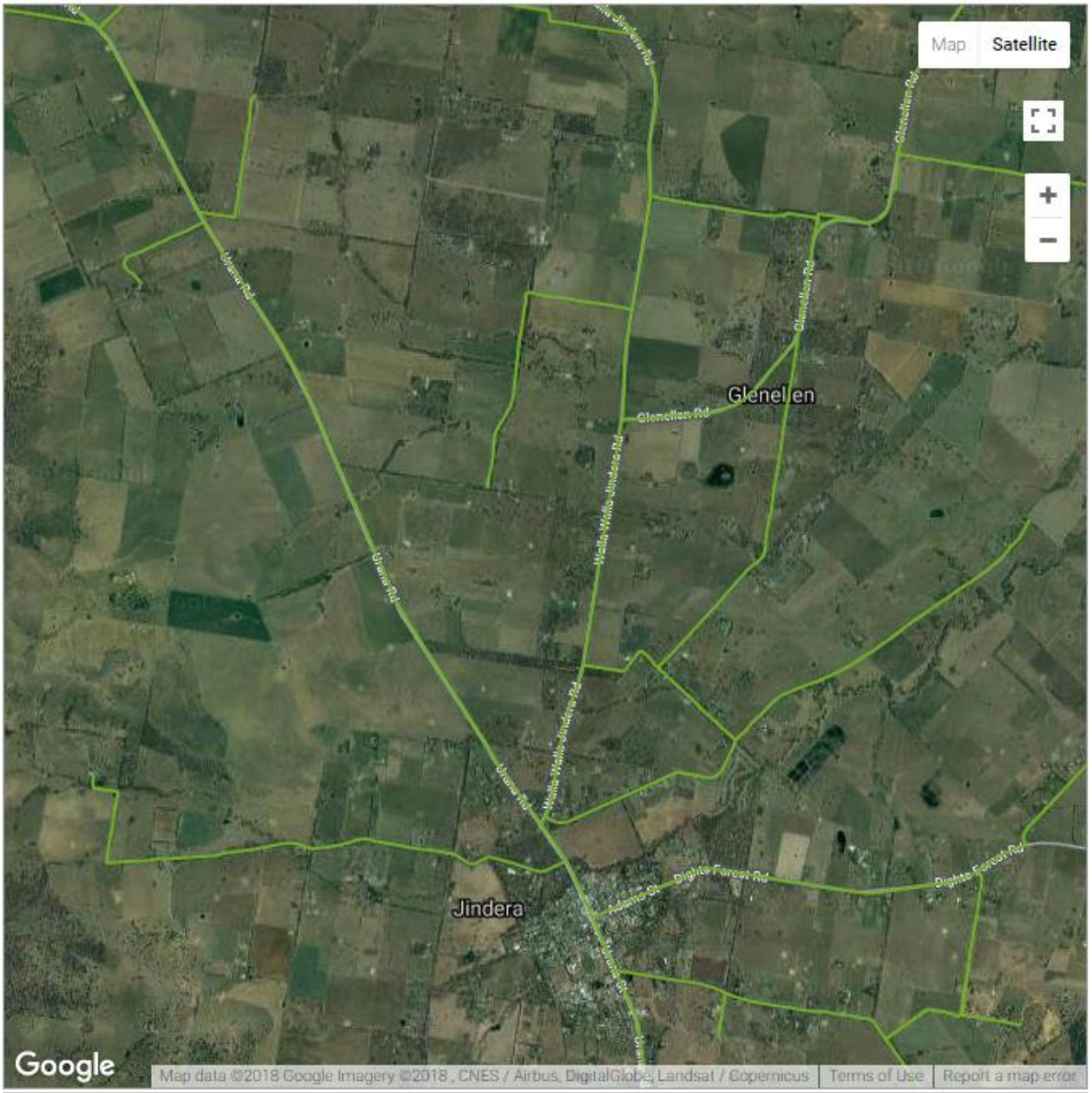
NSW Combined Higher Mass Limits (HML) and Restricted Access Vehicle (RAV) Map

Transport Roads & Maritime Services

Map last updated: 08/08/2018



Legend

GML and CML networks

- 25/26m B-double Routes
- Approved Routes With Travel Conditions
- Exception Routes (not approved)
- Approved Areas
- Approved Areas with Travel Conditions
- Restricted Structures - Bridges
- Restricted Structures with Conditional Access - Bridges
- Restricted Structures - Intersections
- Restricted Structures - Intersections with Conditional Access
- Low Clearance Bridge (< 4.3m) - Through Traffic on Bridge
- Low Clearance Bridge (< 4.3m) - Through Traffic under Bridge