

Appendix D

Biodiversity Assessment Report



BIODIVERSITY ASSESSMENT REPORT

SUPAGAS CARBON DIOXIDE PLANT

NARRABRI LOCAL GOVERNMENT AREA, NSW

JUNE 2026

Report prepared by
OzArk Environment & Heritage
for Onward Consulting
on behalf of Supagas

The logo for OzArk, featuring the word 'OzArk' in a white sans-serif font. The 'O' is a white circle with a green leaf inside. The 'A' is a white triangle with a yellow and orange flame-like shape inside.A large, light green, stylized leaf graphic that curves from the bottom left towards the top right, positioned behind the contact information.

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DOCUMENT CONTROLS

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Purchase order number			
Document description	Biodiversity Assessment Report		
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Client's reviewing officer			
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Location	OzArk job number		
OzArk EHM Data\Clients\Onward\Carbon Dioxide Plant_Wilga Power Station_May 2024\Ecology\Reporting\BAR	4783		
Document status: Final	Version	Date	Action
Internal Draft Series	V1.0	05/06/2026	LB to CG
	V1.1	05/06/2026	CG to LB
First Draft for Client Review	V2.0	05/06/2026	LB to client
Final Report for Client	V3.0	10/06/2026	LB to client
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Acknowledgement

OzArk acknowledge Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage, and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

EXECUTIVE SUMMARY

OzArk Environment & Heritage (OzArk) has been engaged by Onward (the client), on behalf of Supagas (the proponent), to complete a biodiversity assessment for the proposed Supagas carbon dioxide plant (the proposal). The proposal occurs within the Narrabri Local Government Area.

A Biodiversity Development Assessment Report is not required for this proposal as the impact footprint does not overlap with any land mapped on the Biodiversity Values Map, does not exceed the clearing threshold for the relevant lot, and is not expected to result in significant impacts to any threatened entity listed under the *Biodiversity Conservation Act* 2016 (BC Act). As such, the proposal will not trigger entry into the NSW Biodiversity Offsets Scheme (BOS), and a Biodiversity Assessment Report is the appropriate level of assessment.

Field surveys of the site were conducted in June 2024 and 2025. One Plant Community Type (PCT) was recorded within the subject site:

- PCT 411 – Buloke - White Cypress Pine woodland on outwash plains in the Pilliga Scrub and Narrabri regions, Brigalow Belt South Bioregion.

This PCT was assessed against the threshold criteria for all Threatened Ecological Communities (TECs) listed under the BC Act and the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) recorded for the relevant Interim Biogeographic Regionalisation of Australia (IBRA) subregions. No TECs were found to occur within the subject site.

No naturally occurring watercourses occur within the subject site; however, eight watercourses occur within the study area. Of these, Pig Creek and Bohena Creek (440 m and 1130 m from the subject site, respectively) both contain Protected Riparian Land, as recognised by the NSW Department of Climate Change, Energy, the Environment and Water. However, only Bohena Creek contains Key Fish Habitat within the 1.5 km study area, as recognised by the Department of Primary Industries and Regional Development – Fisheries. Considering the closest natural watercourse to the subject site (Pig Creek) is located 440 m from the subject site, a permit for dredging and reclamation under the *Fisheries Management Act* 1994 is not required.

No habitat trees (hollow- or nest-bearing trees) were detected during the field survey. However, scattered fallen timber was identified on-site. Fallen timber provides shelter, nesting, and foraging microhabitats for a range of fauna species. Given this habitat value, fallen timber should be retained where possible or carefully relocated to a suitable area of remnant vegetation in the immediate vicinity, so that its ecological function is maintained within the local landscape.

Five fauna species were detected during the field surveys. No fauna species or populations listed as threatened under the BC or EPBC Act were observed. Due to the short duration of the survey, and the lack of detailed targeted surveys for threatened species (e.g., trapping, nocturnal spotlighting, microbat ultrasonic call capture, etc), the non-detection of threatened fauna species cannot be considered as confirmation of their absence. Based on the proximity of past records, habitat requirements, and the results of the field survey, 39 threatened and/or migratory fauna species were assessed as having a moderate-to-high likelihood of occurring at the subject site. Tests of significance have been conducted for these species under the BC, and/or EPBC Act; these tests concluded that provided mitigations are adhered to, the proposal would not result in a significant impact to any threatened fauna species.

Fifty-seven flora species were detected during the field surveys. No flora species or populations listed as threatened under the BC or EPBC Act were observed. Given the short duration of the field survey, and the lack of targeted flora surveys, the non-detection of threatened flora species cannot be considered as confirmation of their absence. Based on the proximity of past records, habitat requirements, and the results of the field surveys, 13 threatened flora species were assessed as having a moderate-to-high likelihood of occurring at the subject site. Tests of significance have been conducted for these species under the BC and EPBC Act; these tests concluded that the proposal would not result in a significant impact to any threatened flora species.

Of the species assessed, *Myriophyllum implicatum* represents the species of greatest concern in relation to the proposed development. As outlined in the test of significance for this species, a population of *M. implicatum* could not be confirmed or excluded during the field survey conducted in June, as this falls outside the appropriate survey window for the species (October – February). Potential habitat for the species, identified as PCT 461 – Pilliga tank gilgai wetland sedgeland rushland, was recorded in the vicinity of the subject site, located approximately 28 m from the proposed wastewater irrigation area. Given this proximity, there is uncertainty regarding the potential for indirect impacts associated with the irrigation of treated water to adversely affect any population of the species that may be present. As such, a targeted survey for *M. implicatum* must be undertaken during the appropriate survey window prior to the commencement of irrigation operations. If the species is not detected, no further mitigation measures relating to *M. implicatum* are required and wastewater irrigation may proceed as planned. Should the species be detected, a monitoring program should be developed and implemented to assess whether the irrigation of treated water is resulting in any adverse impacts to the population. If the monitoring program identifies adverse impacts to the species or its habitat, adaptive management responses should be implemented to mitigate these impacts.

This assessment covers the current form of the proposal. Any change to the scope of work may require re-assessment. If entry into the BOS is triggered by a changed scope, additional field

work and reporting completed according to the Biodiversity Assessment Method 2020 may be required.

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ABBREVIATIONS

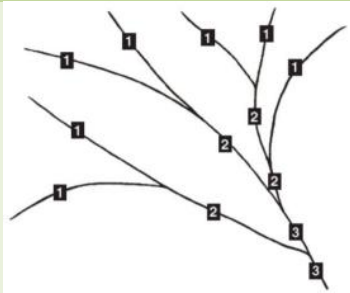
Term	Description
°C	Degrees Celsius
AOBV	Areas of Outstanding Biodiversity Value
ASL	Above Sea Level
BAM	Biodiversity Assessment Method 2020
BAR	Biodiversity Assessment Report
BDAR	Biodiversity Development Assessment Report
BC Act	<i>NSW Biodiversity Conservation Act 2016</i>
BOS	NSW Biodiversity Offsets Scheme
CAMBA	China-Australia Migratory Bird Agreement
CEEC	Critically Endangered Ecological Community
CEMP	Construction Environmental Management Plan
DCCEEW	Commonwealth Department of Climate Change, Energy the Environment and Water
DoE	Department of Environment
DPI	NSW Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
DPIRD	Department of Primary Industries and Regional Development
EEC	Endangered ecological community
EIS	Environmental Impact Statement
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
ESCP	Erosion and Sediment Control Plan
FM Act	<i>NSW Fisheries Management Act 1994</i>
GDEs	Groundwater dependent ecosystems
GPS	Global Positioning System
ha	Hectare
HTE	High Threat Exotic
IBRA	Interim Biogeographic Regionalisation of Australia. Each region is a land area made up of a group of interacting ecosystems repeated in similar form across the landscape.
JAMBA	Japan-Australia Migratory Bird Agreement
KFH	Key Fish Habitat
KTP	Key Threatening Process
LEP	Local Environmental Plan
LGA	Local Government Area
mm/cm/m/m ² /km	Millimetre/centimetre/metre/square metre/kilometre
MNES	Matters of National Environmental Significance
NPW Act	<i>NSW National Parks and Wildlife Act 1974</i>
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
OEH	NSW Office of Environment and Heritage
PCT	Plant Community Type
PMST	Protected Matters Search Tool

Term	Description
PW	Priority Weed
RAMSAR	Convention on Wetlands of International Importance
REF	Review of Environmental Factors
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
TECs	Threatened Ecological Communities
TSPD	Threatened Species Profile Database
VIS	Vegetation information system
WoNS	Weeds of National Significance

GLOSSARY OF TERMS

Term	Description
Areas of outstanding biodiversity	An area of outstanding biodiversity value is: • an area important at a State, national or global scale, and • an area that makes a significant contribution to the persistence of at least one of the following: ○ multiple species or at least one threatened species or ecological community ○ irreplaceable biological distinctiveness ○ ecological processes or ecological integrity ○ outstanding ecological value for education or scientific research. The declaration of an area may relate, but is not limited, to protecting threatened species or ecological communities, connectivity, climate refuges and migratory species under the BC Act.
Biodiversity Values Map	Means the map published in accordance with clause 7.3 of the <i>Biodiversity Conservation Regulation 2017</i> (BCR, [DPIE, 2020a]).
BioNet Atlas	The Department's database of flora and fauna records. It contains records of plants, mammals, birds, reptiles, amphibians, some fungi, some invertebrates (such as insects and snails listed under the BC Act) and some fish (DPIE, 2020a).
BioNet Vegetation Classification	The vegetation community-level classification for use in vegetation mapping programs and regulatory biodiversity impact assessment frameworks in NSW (DPIE, 2020a).
Composition (TEC)	Both the plant and animal species present, and the physical structure of the ecological community. Note that while many ecological communities are identified primarily by their vascular plant composition, an ecological community consists of all plants and animals as defined under the BC Act that occur in that ecological community (OEH, 2018)
Connectivity	The measure of the degree to which an area of native vegetation is linked with other areas of vegetation (DPIE, 2020a).
Cumulative impact	The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Refer to Clause 228(2) of the <i>EP&A Regulation 2000</i> for cumulative impact assessment requirements.
Direct impact	Are those that directly affect the habitat of species and ecological communities and of individuals using the study area. They include, but are not limited to, death through predation, trampling, poisoning of the animal/plant itself and the removal of suitable habitat. When applying each factor, consideration must be given to all of the likely direct impacts of the proposed activity or development. When applying each factor, both long-term and short-term impacts are to be considered (OEH, 2018).
Habitat	The area occupied or used, including areas periodically or occasionally occupied or used, by any threatened species or ecological community and includes all the different aspects (both biotic and abiotic) used by species during the different stages of their life cycle (OEH, 2018).
Habitat critical to survival	Habitat critical to the survival of a species or ecological community' refers to areas that are necessary: • for activities such as foraging, breeding, roosting, or dispersal, • for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators), • to maintain genetic diversity and long term evolutionary development, or • the reintroduction of populations or recovery of the species or ecological community. Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act (DE, 2013).

Term	Description
Important population	Is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are: • key source populations either for breeding or dispersal • populations that are necessary for maintaining genetic diversity, and/or • populations that are near the limit of the species range (DE, 2013).
Indirect impact	Occur when project-related activities affect species or ecological communities in a manner other than direct loss within the subject site. Indirect impacts may sterilise or reduce the habitability of adjacent or connected habitats. Indirect impacts can include loss of individuals through starvation, exposure, predation by domestic and/or feral animals, loss of breeding opportunities, loss of shade/shelter, reduction in viability of adjacent habitat due to edge effects, deleterious hydrological changes, increased soil salinity, erosion, inhibition of nitrogen fixation, weed invasion, noise, light spill, fertiliser drift, or increased human activity within or directly adjacent to sensitive habitat areas. As with direct impacts, consideration must be given, when applying each factor, to all of the likely indirect impacts of the proposed activity or development. When applying each factor, both long-term and short-term impacts are to be considered (OEH, 2018).
Invasive species	Is an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources, or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or ecological communities by direct competition, modification of habitat or predation (DE, 2007).
Life cycle	The series or stages of reproduction, growth, development, ageing and death of an organism (OEH, 2018)
Local occurrence (TEC)	The ecological community that occurs within the study area. However, the local occurrence may include adjacent areas if the ecological community on the study area forms part of a larger contiguous area of that ecological community and the movement of individuals and exchange of genetic material across the boundary of the study area can be clearly demonstrated (OEH, 2018).
Local population (of a threatened or migratory species)	The population that occurs in the study area. The assessment of the local population may be extended to include individuals beyond the study area if it can be clearly demonstrated that contiguous or interconnecting parts of the population continue beyond the study area, according to the following definitions: • The local population of a threatened plant species comprises those individuals occurring in the study area or the cluster of individuals that extend into habitat adjoining and contiguous with the study area that could reasonably be expected to be cross-pollinating with those in the study area. • The local population of resident fauna species comprises those individuals known or likely to occur in the study area, as well as any individuals occurring in adjoining areas (contiguous or otherwise) that are known or likely to utilise habitats in the study area. • The local population of migratory or nomadic fauna species comprises those individuals that are likely to occur in the study area from time to time or return year to year. In cases where multiple populations occur in the study area, each population should be assessed separately (OEH, 2018)
Low condition (vegetation)	Vegetation in low condition means (OEH, 2012): • woody native vegetation with native over-storey percent foliage cover less than 25% of the lower value of the over-story percent foliage cover benchmark for that vegetation type, and where either: - less than 50% of ground cover vegetation is indigenous species, or - greater than 90% of ground cover vegetation is cleared OR • native grassland, wetland or herbfield where either: - less than 50% of ground cover vegetation is indigenous species, or - more than 90% of ground cover vegetation is cleared.

Term	Description
Minimise (impacts)	A process applied throughout the development planning and design life cycle that seeks to reduce the residual impacts of development on biodiversity values (DPIE, 2020a).
Moderate to good condition (vegetation)	If native vegetation is not in low condition (above), it is in moderate to good condition (OEH, 2012).
Mitigate (impacts)	Action to reduce the severity of an impact.
Mitigation measure	Any measure that prevents, reduce or controls adverse environmental effects of a project.
NSW (Mitchell) landscape	Landscapes with relatively homogeneous geomorphology, soils and broad vegetation types, mapped at a scale of 1:250,000 (DPIE, 2020a). NSW Landscapes were developed for conservation planning and reserve establishment purposes, to provide consistent statewide ecological units finer than the existing bioregions and sub-regions.
Proposal	Includes all activities likely to be undertaken within the subject site to achieve the proposal objectives. This encompasses site preparation and construction, operation and maintenance, and closure and completion stages of a project, as well as alterations or modifications to existing infrastructure (DE, 2013).
Risk of extinction	The likelihood that the local occurrence of a TEC or population will become extinct either in the short-term or in the long-term as a result of direct or indirect impacts on the viability of that population (OEH, 2018).
Search area	A 10-kilometre search area centred at the mid-point of the subject site is used to search BioNet Atlas and the EPBC PMST to establish the landscape context of the subject site and the likelihood of it supporting threatened entities.
Significant impact	An impact which is important, notable, or of consequence, having regard to its context or intensity (DE, 2013).
Strahler stream order	Strahler 'Stream order' is used to describe the hierarchy of streams from the top to the bottom of a catchment. This report uses the <i>Water Management (General) Regulation 2018</i> definition of Stream order as described in Schedule 2 of that Regulation and pictured here.
	
Study area	Means the subject site and any additional areas which are likely to be affected by the proposal, either directly or indirectly. The study area should extend as far as is necessary to take all potential impacts into account (OEH, 2018). In this instance, the study area extends 1,500 m from the site.
Subject site	Means the area directly affected by the proposal. The subject site includes the footprint of the development and any ancillary works, facilities, accesses or hazard reduction zones that support the construction or operation of the development or activity (OEH, 2018).
Threatened Biodiversity Data Collection	Part of the BioNet database, published by the Department and accessible from the BioNet website at www.bionet.nsw.gov.au (DPIE, 2020a).
Vagrant species	Refers to occasional records of species in NSW that are outside their normal distribution or habitat, including escaped animals and planted specimens (DPIE, 2020a).
Viable	The capacity to successfully complete each stage of the life cycle under normal conditions (OEH, 2018)
Woody native vegetation	Native vegetation from species assessed in the tree growth form group and shrub growth form group (DPIE, 2020a).

1. INTRODUCTION

Supagas Pty Ltd (Supagas; the proponent) is seeking to construct and operate a carbon dioxide (CO₂) plant (the Project), which would connect to the Wilga Park Power Station (WPSS). The CO₂ plant would capture and process exhaust gases from the WPPS gas generators and output a high purity CO₂ product for export.

The Project would be constructed adjacent to the WPPS, located approximately 12 kilometres (km) south-west of Narrabri, in the Narrabri Local Government Area (LGA) (**Figure 1-2**). The WPPS is owned and operated by Santos NSW (Eastern) Pty Ltd (Santos).

OzArk Environment & Heritage (OzArk) has been engaged by Onward Consulting (Onward) on behalf of the proponent to complete a Biodiversity Assessment Report (BAR) for the Project.

The environmental assessment and determination of the proposal has been undertaken in accordance with Part 4 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act). For this proposal Narrabri Shire Council is the determining authority (EP&A Act s.5.1).

1.1 REGULATORY CONTEXT

In the case of this development, a Biodiversity Assessment Report (BAR) is appropriate, rather than a Biodiversity Development Assessment Report (BDAR), as entry into the NSW Biodiversity Offsets Scheme (BOS) is not triggered. For reference, entry into the BOS is triggered when one or more of the three triggers outlined in **Table 1-1** are met.

Table 1-1. Triggers for entering the NSW Biodiversity Offsets Scheme (BOS).

BOS Trigger	Triggered?
The proposal exceeds the clearing threshold for the relevant property.	No. According to the minimum lot size mapping in the Narrabri Local Environmental Plan (2012), the minimum lot size associated with the proposal is 100 ha (Figure 1-1). Therefore, the clearing threshold will be 1 ha (Table 1-2). The proposal would require the clearing of 0.60 ha of native vegetation (see Section 5.1), below the 1 ha clearing threshold (Table 1-2).
The proposal will impact a mapped area of biodiversity value on the state-wide Biodiversity Values Map.	No. the subject site does not contain any land mapped on the Biodiversity Values Map (see Appendix A).
The proposal will result in a significant impact to one or more listed threatened entities.	No. Based on the tests of significance completed under the <i>Biodiversity Conservation Act</i> 2016 (BC Act), provided mitigation measures outlined in Section 7 are adhered to, the proposal would not significantly impact a BC Act-listed threatened entity (Appendix D).

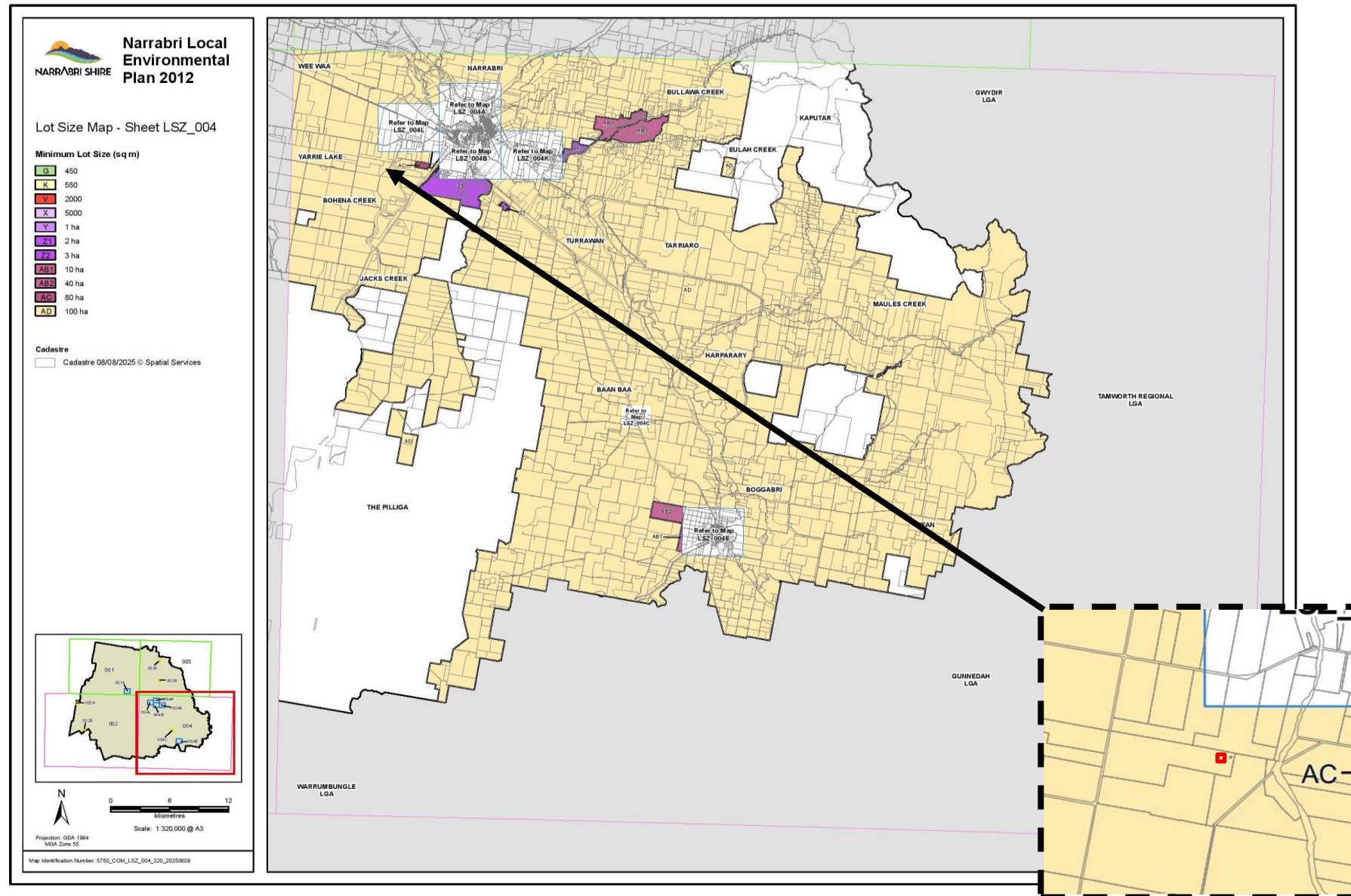


Table 1-2. Minimum lot size and allowable clearing threshold under the Biodiversity Assessment Method (2020).

Minimum Lot Size	Clearing Threshold
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.50 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

1.2 PROJECT LOCATION AND CONTEXT

1.2.1 REGIONAL CONTEXT

The regional context of the proposal is explored in **Table 1-3** and depicted in **Figure 1-2**.

Table 1-3. Regional context for the proposal.

Criteria	Value
Interim Biogeographic Regionalisation for Australia (IBRA Region)	Brigalow Belt South
Interim Biogeographic Regionalisation for Australia Sub-region (IBRA Sub-Region)	- Pilliga Outwash (subject site) - Pilliga (search area) - Liverpool Plains (search area)
State	NSW
Local Government Area	Narrabri
Nearest town	Narrabri
Nearest park, state forest or reserve	Brigalow State Conservation Area (8.5 km from subject site)
Mitchell Landscapes	- Coghill Alluvial plains (subject site) - Baradine - Coghill Channels and Floodplains (study area)
Nearest waterway (Name, Type)	Pig Creek (minor watercourse) – 440 m from the subject site, 370 m from the irrigation area
Surrounding land use	- Utilities (subject site) - Grazing native vegetation (subject site) - Grazing modified pastures (study area) - Residential and farm infrastructure (study area) - Marsh/Wetland (study area)
Surrounding land zone	RU1 – Primary Production (subject site)

1.2.2 PROJECT TERMS

This report uses the following terms to describe and contextualise the development location:

Search area the area within a 10 km radius of the subject site. This 10 km buffer has been used to search information sources to establish the landscape context of the subject site (**Figure 1-2**).

Study area	the area within a 1,500 m radius of the subject site. Native vegetation has been mapped within this 1,500 m buffer to provide some context regarding the connectivity and cover of native vegetation in the area affected by the proposal, and to inform the impact assessment of the proposal (Figure 1-2).
Project Area	the survey area for the Project (Figure 1-3).
Subject site	the footprint of the proposal and the area directly affected by the development activities (Figure 1-3). This has been used to calculate the native vegetation required to be cleared and ascertain whether the BOS is triggered.
Irrigation Area	the area within which treated waste process water will be distributed via a piping and sprinkler network (Figure 1-3).

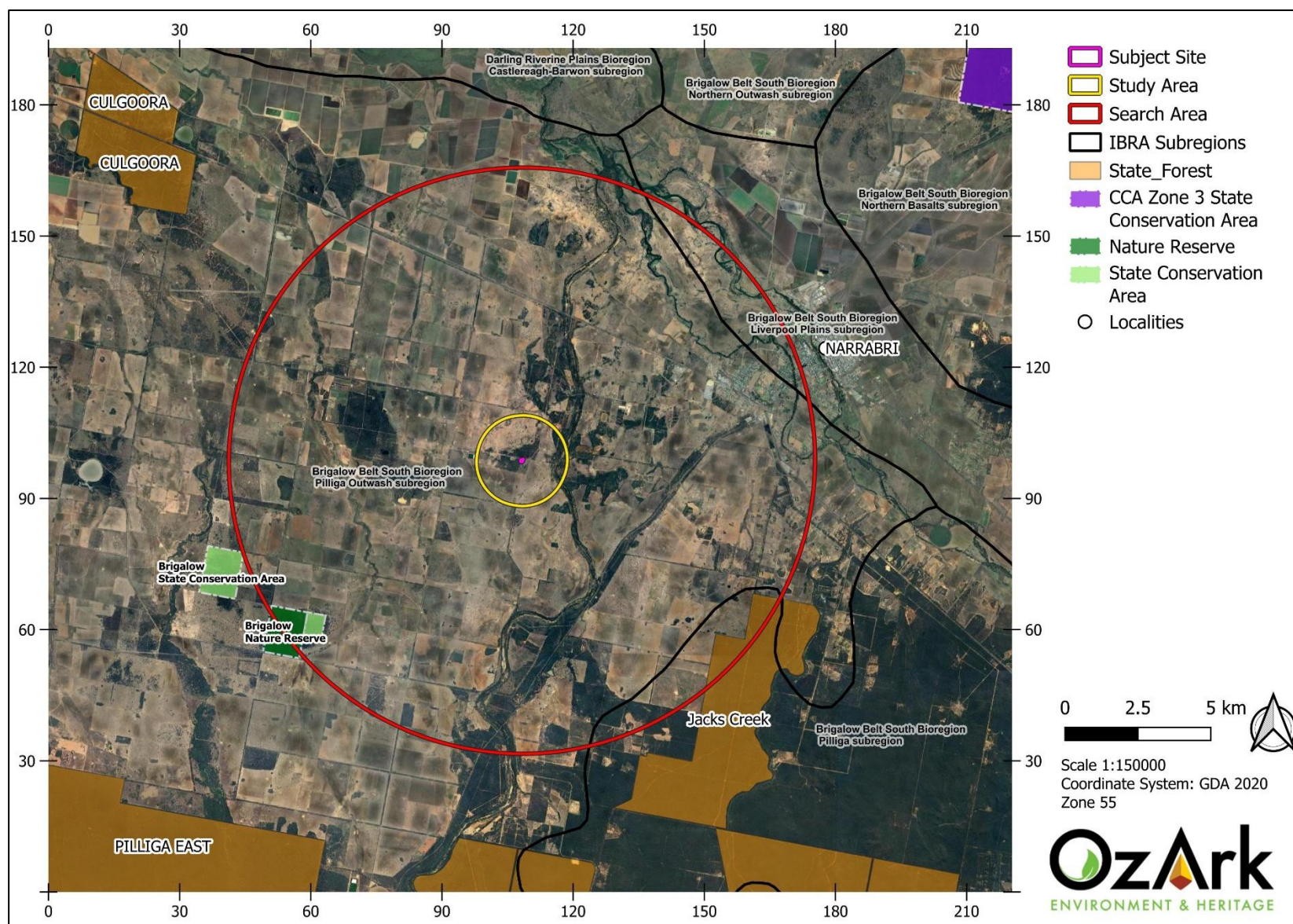


Figure 1-2. Regional location of the proposal.

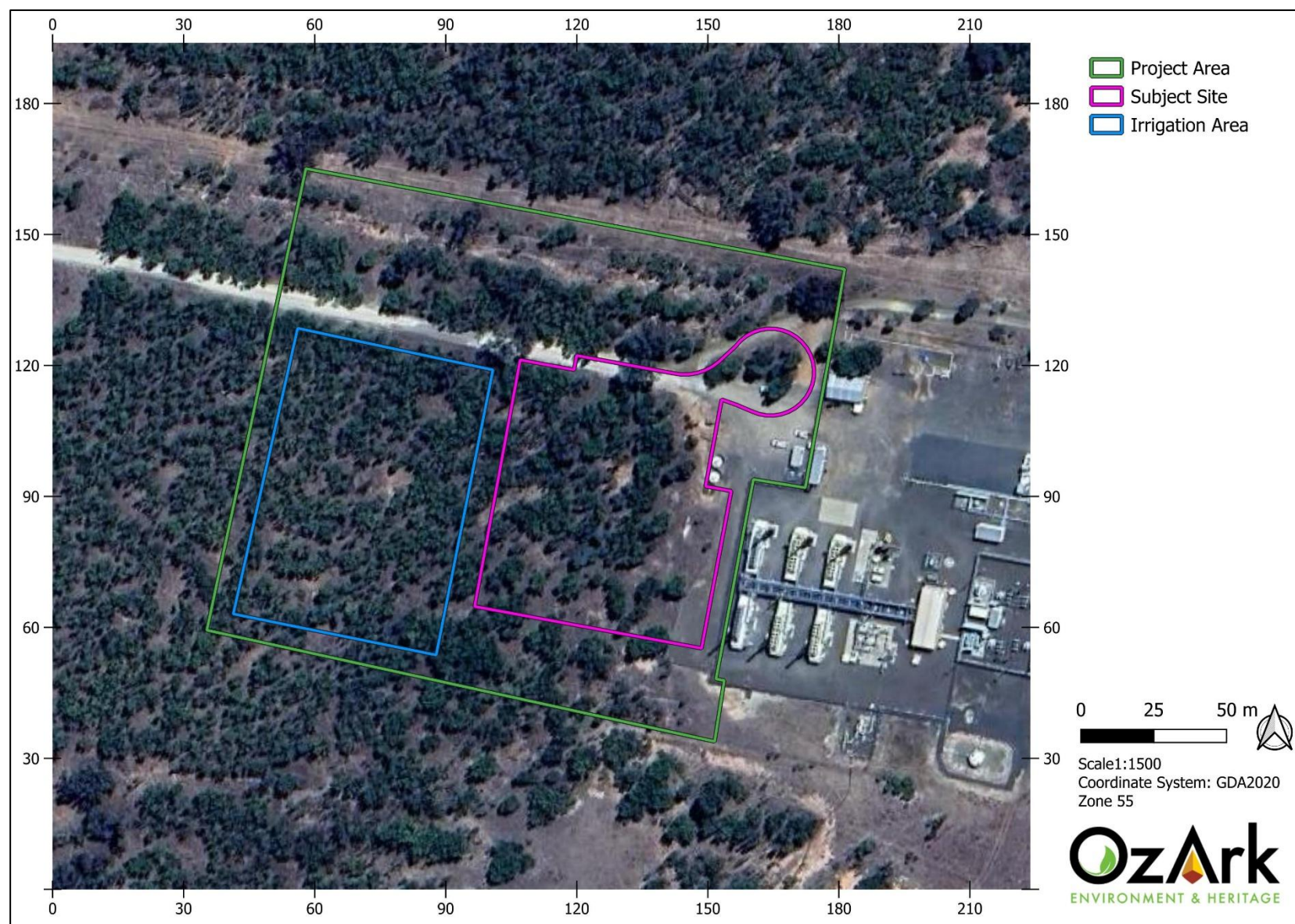


Figure 1-3. Subject Site.

2. STATUTORY AND PLANNING CONTEXT

2.1 COMMONWEALTH LEGISLATION

2.1.1 *ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)*

To assist with nationally listed matters assessments, the *Matters of National Environmental Significance: Significant impact guidelines 1.1. Environment Protection and Biodiversity Conservation Act 1999* (DoE 2013) are followed.

Birds which are listed in the following international agreements are listed as migratory birds under the EPBC Act.

- Japan-Australia Migratory Bird Agreement (JAMBA).
- China-Australia Migratory Bird Agreement (CAMBA).
- Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Matters which fall under this legislation are addressed in **Section 5.7** and **Appendix E**.

2.2 NSW LEGISLATION

2.2.1 *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A ACT)*

The EP&A Act is the principal planning legislation for NSW by providing the framework for environmental planning and the assessment of proposals.

Part 5 of the Act requires that a determination be made as to whether a proposed action is likely to significantly affect threatened species or ecological communities, or their habitats listed on Schedule 1 and 2 of the *Biodiversity Conservation Act 2016* (BC Act). Where found, the assessment criteria under Part 7 Section 7.3 of the BC Act (the 'Assessment of Significance') will be drawn upon to determine whether there would be a significant effect on these species and hence whether a Species Impact Statement (or Biodiversity Development Assessment Report [BDAR] should the proponent elect that option) is required.

2.2.2 *BIODIVERSITY CONSERVATION ACT 2016 (BC ACT)*

The BC Act relates to the terrestrial environment and includes threatened species, ecological communities, key threatening processes (KTPs) and other protected animals and plants.

Section 7.3 of the BC Act contains a five-part test of significance for determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

Where a significant impact is likely to occur, the proponent must either opt into the Biodiversity Offsets Scheme (BOS) and prepare a BDAR or prepare a Species Impact Statement (SIS) for each significantly impacted BC Act-listed entity.

BC Act listed species and communities are addressed in **Section 5.4** and **Appendices C** and **D**.

2.2.3 BIOSECURITY ACT 2015 (BIOSECURITY ACT)

The Biosecurity Act aims to manage biosecurity risks from animal and plant pests and diseases, weeds, and contaminants in NSW. The Biosecurity Act imposes a general biosecurity duty to ensure that, so far as is reasonably practicable, any biosecurity risk is prevented, eliminated, or minimised. The proponent is required to manage the presence of weeds in the subject site.

2.2.4 LOCAL LAND SERVICES ACT 2013 (LLS ACT)

The objects of the Act include 'to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development. The Act regulates the clearing of native vegetation on rural land, however section 60(O)(b)(ii) excludes the need for consent under the LLS Act where the clearing is an activity carried out by a determining authority within the meaning of Part 5 of the EP&A Act 1979.

2.2.5 FISHERIES MANAGEMENT ACT 1994 (FM ACT)

Part 7A of the FM Act along with schedules within the act, list threatened aquatic and marine species, populations and ecological communities and KTPs which must be considered as part of obligations under Section 5.5 of the EP&A Act.

Section 201 of the FM Act states that a person (other than a public or local government authority) must not carry out dredging work or reclamation work except under the authority of a permit issued by the Minister. Dredging work means any work that involves excavating water land. Reclamation work means any work that involves depositing any material on water land.

Under section 198A of the FM Act:

"water land" means land submerged by water:

(a) whether permanently or intermittently, or

(b) whether forming an artificial or natural body of water,

and includes wetlands and any other land prescribed by the regulations as water land to which this Division applies. A permit under Part 7 of the FM Act is also required for certain activities that could potentially obstruct the 'free passage of fish', in accordance with the definitions in Section 219 of the FM Act.

Refer to **Section 4.3** for issues relating to watercourses and the FM Act.

2.2.6 WATER MANAGEMENT ACT 2000 (WM ACT)

The WM Act aims to provide for the ‘sustainable and integrated management of the water sources of the state for the benefit of both present and future generations.’

The WM Act provides for the granting of various licenses and approvals, including for the use of water and water supply work. Additionally, the WM Act identifies provisions relating to ‘controlled activities’ carried out on ‘waterfront land’ (within 40 m of a river bank, lake shore, or estuary’s high water mark). Controlled activities include:

- erecting a building,
- carrying out works,
- removing material (e.g., plants and rocks),
- depositing material (e.g., gravel and fill),
- any activity which affects the quantity or flow of water in a water source.

Examples of controlled activities include:

- construction of watercourse crossings (e.g., bridges, bed level crossings),
- laying pipes and cables,
- sand and gravel extraction.

The subject site is not located on waterfront land, therefore controlled activity approval would not be required.

2.2.7 NARRABRI LOCAL ENVIRONMENTAL PLAN 2012

A Local Environmental Plan (LEP) is a legal document prepared by a Council and approved by the State Government for the regulation of land-use and development. LEPs guide planning decisions for local governments. The plan allows Council to regulate the ways in which all land both private and public may be used and protected through zoning and development controls.

The subject site falls within the Narrabri LGA; consequently, the provisions of the Narrabri LEP 2012 apply to the proposal.

(1) This Plan aims to make local environmental planning provisions for land in Narrabri in accordance with the relevant standard environmental planning instrument under section 3.20 of the Act.

(2) The particular aims of this Plan are as follows—

- aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,
- (a) to encourage the orderly management, development and conservation of resources by protecting, enhancing and conserving—
- (i) land of significance for agricultural production, and
 - (ii) timber, minerals, soil, water and other natural resources, and
 - (iii) areas of high scenic or recreational value, and
 - (iv) native plants and animals including threatened species, populations and ecological communities, and their habitats, and
 - (v) places and buildings of heritage significance,
- (b) to provide a choice of living opportunities and types of settlements,
- (c) to facilitate development for a range of business enterprise and employment opportunities,
- (d) to ensure that development is sensitive to both the economic and social needs of the community, including the provision of community facilities and land for public purposes.

The Narrabri LEP does not contain terrestrial biodiversity mapping of the Narrabri LGA.

2.2.8 STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021

The *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (SEPPBC 2021) consolidates, transfers and repeals provisions of 11 SEPPs, the following of which are relevant to the current assessment:

- Former SEPP (Koala Habitat Protection) 2020
- Former SEPP (Koala Habitat Protection) 2021

These individual SEPPs are no longer current; however, their provisions are incorporated into the SEPPBC 2021. Through the principles contained in these amalgamated SEPPs, the SEPPBC 2021 aims to encourage the ‘proper conservation and management of areas of natural vegetation that provide habitat for Koalas to ensure a permanent free-living population over their present range and reverse the current trend of Koala population decline’.

As the subject site contains land zone RU1 – Primary Production, Chapter 3 of the SEPPBC 2021 applies. Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential Koala habitat. Potential Koala habitat is defined as areas of native

vegetation where trees of the types listed in Schedule 1 of the SEPP constitute at least 15% of the total number of trees in the upper or lower strata of the tree component within the subject site. As the field survey did not identify any trees listed in Schedule 1 of the SEPP (see Flora List in **Appendix B**), the subject site is not considered potential Koala habitat. Therefore, council is not prevented, because of this Chapter, from granting consent to the development application. Nevertheless, the proposal's potential impacts to threatened species, including the Koala, have been considered in **Section 5.4** and **Appendices D & E**.

3. METHODS

The ecological assessment was carried out in three stages:

1. Desktop searches and review of ecological databases and information to identify threatened species, populations or ecological communities listed in the BC Act, FM Act or the EPBC Act that have the potential to occur in the study area.
2. Field survey of the subject site for the purposes of:
 - collating lists of those plants present, these being used to assist with the identification of the site's vegetation communities
 - determining the habitat structures present
 - determining habitat availability for fauna species recorded or expected to occur.

Where a threatened species or community or habitat feature is identified, document the nature and extent of the protected matter and describe its 'viable local population' or occurrence. Searches for fauna species were conducted by overturning logs and rocks, searching in habitat features such as culverts and traces and signs of fauna were recorded such as scat and tracks.

3. Preparation of a written BAR that describes the impacts of the proposed activity on native vegetation and threatened species, populations and ecological communities, and provides recommendations to avoid, minimise and mitigate these impacts.

3.1 PERSONNEL

OzArk operates under NSW Department of Planning, Industry and Environment (DPIE) Scientific License 101908, NSW Department of Primary Industries (DPI) Accreditation as an Animal Research Establishment (accreditation number 53103), and the Secretary's Animal Care and Ethics Committee Animal Research Authority RVF21/954.

Field surveys were completed by Project Ecologist Ian Griffith on the 27th of June 2024 and the 12th of June 2025. Reporting components were completed by Ecologist Lucca Brozler, with quality control provided by Senior Ecologist Dr Crystal Graham. Key details of personnel involved are available in **Table 3-1**.

Table 3-1. Summary of OzArk personnel qualifications.

Name	Position	CV Details
Dr Crystal Graham	Senior Ecologist	• BAM-accredited Assessor #BAAS22024 • Postdoctoral Fellow – Smithsonian Tropical Research Institute • Doctor of Philosophy (Biology) – University of Sydney • Honours in Biology – University of Sydney • Bachelor of Advanced Science – University of Sydney • 4WD Training • First Aid Training • WH&S Induction Training for Construction Work • Worker at Heights Training
Ian Griffith	Project Ecologist	• BAM-accredited Assessor #BAAS25023 • Honours in Genetics - La Trobe University • Bachelor of Biological Sciences - La Trobe University • First Aid Training • WH&S Induction Training for Construction Work • Rail Industry Worker Card • 4WD Training
Lucca Brozler	Ecologist	• Masters in Conservation Biology – The University of Queensland • Bachelor of Biological Science – The University of Queensland • WH&S Induction Training for Construction Work

3.2 BACKGROUND RESEARCH

Preliminary assessments drew on local experience, previous reporting, and information available on governmental databases. Database search results were used to assist in identifying distributions, suitability of habitats, and known records of threatened species to increase the effectiveness of field investigations. Information sources reviewed included:

- NSW Government Web Map Service (WMS) layers for NSW Imagery (compiled imagery, NSW Property, NSW Base Map and NSW Topographic Map) (<https://www.spatial.nsw.gov.au/>).
- EPBC Protected Matters Search Tool (<https://www.environment.gov.au/epbc/protected-matters-search-tool>)
- NSW State Vegetation Type Map C2.0.M2.1 (<https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map>)
- NSW DPI threatened fish indicative distribution maps (www.dpi.nsw.gov.au/fishing/species-protection/threatened-species-distributions-in-nsw/freshwater-threatened-species-distribution-maps)
- NSW BioNet Wildlife Atlas Vegetation classification (<https://www.environment.nsw.gov.au/research/Visclassification.htm>)
- NSW BioNet Threatened Biodiversity Data Collection (www.bionet.nsw.gov.au/)
- NSW BioNet Atlas (www.bionet.nsw.gov.au/)

- Register of Declared Areas of Outstanding Biodiversity Value (www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/about-threatened-species/critical-habitats)
- PlantNET, NSW Flora Online (www.plantnet.rbgsyd.nsw.gov.au/)
- NSW Department of Planning and Environment *Biodiversity Values Map* (<https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>)
- Vulnerable Lands – Steep or Highly Erodible, Protected Riparian and Special Category land Mapping (<https://datasets.seed.nsw.gov.au/dataset/vulnerable-land-protected-riparian73a9e>)
- Acid Sulfate Soils Risk mapping (<https://datasets.seed.nsw.gov.au/dataset/acid-sulfate-soils-risk0196c>)
- Directory of Important Wetlands of Australia (DIWA) (<https://www.environment.gov.au/water/wetlands/australian-wetlands-database/directory-important-wetlands>)
- NSW wetlands mapping (<https://datasets.seed.nsw.gov.au/dataset/nsw-wetlands047c7>)

These searches indicated key species for field survey efforts and targeted searches. The results of the database searches are provided in **Appendix A**. A series of other background searches were performed (**Table 3-2**).

Table 3-2. Presence and/or proximity of environmental considerations.

Environmental Considerations	In the subject site?
Land identified on the Biodiversity Values Map under the <i>BC Act</i> 2016?	No (see Appendix A)
Area of Outstanding Biodiversity Value (AOBV) under the <i>BC Act</i> 2016?	No
Critical habitat nationally?	No
An area reserved or dedicated under the <i>National Parks and Wildlife Act</i> 1974 (NPW Act)?	No
Is the proposal located within land reserved or dedicated within the meaning of the <i>Crown Lands Act</i> 1989 for preservation of other environmental protection purposes?	No
A World Heritage Area?	No
Environmental Protection Zones in environmental planning instruments?	No
Lands protected under <i>SEPP (Biodiversity and Conservation)</i> 2021?	Yes (see Section 2.2.8)
Land identified as wilderness under the <i>Wilderness Act</i> 1987 or declared as wilderness under the <i>NSW NPW Act</i> ?	No
Aquatic reserves dedicated under the <i>NSW FM Act</i> ?	No
Aquatic threatened ecological community?	No (see Section 5.3)
Wetland areas dedicated under the Ramsar Wetlands Convention?	No
Land subject to a conservation agreement under the <i>NSW NPW Act</i> ?	No

Environmental Considerations	In the subject site?
Land identified as State Forest under the <i>Forestry Act</i> 2012?	No
Acid sulphate area?	No
Protected riparian habitat?	No (see Section 4.3)
Mapped Key Fish Habitat (KFH)?	No (see Section 4.3)

3.3 FIELD SURVEY

The objectives of the field survey were to:

- Identify native species and vegetation communities present.
- Describe the quality and value of the vegetation and the flora and fauna habitat at the development site.
- Determine if species, populations or ecological communities listed as threatened under the BC Act or EPBC Act are/may be present.
- Determine the significance of impact to any threatened entities present or likely to be present.

3.3.1 VEGETATION SURVEYS

Vegetation communities were assessed across the entire project area in accordance with the online NSW Master Plant Community Type Classification (NSW DCCEEW, 2024b), which is the current state-wide vegetation classification system for Plant Community Types (PCT). This classification system is used for vegetation mapping, development assessment and site planning purposes. It describes over 1,500 PCTs across the state, and groups the vegetation communities into vegetation Class and Formation / Sub-formation as per Keith (2004).

PCTs were identified on the following basis:

- NSW State Vegetation Map C2.0.M2.1 (NSW DCCEEW 2024c), which provides predictive mapping of PCTs in and around the subject site. This mapping is indicative only. It is not necessarily accurate at a fine scale for the purposes of the current study.
- Professional ecological knowledge about locally occurring vegetation types and landscape, soil, and topographic patterns, including transitions from one community to another and potential for intergrades between plant communities.
- Field survey results confirming the flora species present, vegetation structure, landscape position and soil type at the subject site and the extent and condition of native vegetation.
- The BioNet Vegetation Classification database was used to identify the candidate vegetation communities likely to be present based on the site conditions (flora species

present, vegetation structure, bioregion, and landscape position and soil type) and the relevant published PCT descriptions.

If any of the PCTs were identified as having potential to be part of a TEC, the relevant identification guidelines (NSW Scientific Committee listing criteria and Commonwealth identification guides) were consulted to determine the status of the vegetation community on the subject site. These guidelines provide the identification criteria used to positively identify the community as being part of the TEC. Criteria includes location; species present; overstorey species; weed cover; number; and type of native species, including 'important' native species.

When surveying the assessment area, a version of the Random Meander Method (Cropper 1993) was employed. This method entails traversing sites that require investigation by foot, during which notes are made on the structure and floristic composition of the native vegetation, as well as the availability of habitat for threatened species.

Plant identification followed nomenclature in the Royal Botanic Gardens PlantNet online database (Royal Botanic Gardens and Domain Trust, 2026).

3.3.2 FAUNA SURVEYS

The subject site was incidentally searched for fauna use while undertaking floristic and habitat surveys. All habitat trees (i.e., hollow-bearing trees or trees containing nests) were GPS tagged, where present. Potential habitat (e.g., rocks, logs, loose bark and coarse woody debris) was examined for cryptic species. Areas of suitable substrate were searched for animal tracks and burrows. Secondary evidence of fauna presence on the subject site (e.g., scats, feathers and sloughed skin) was also recorded. Herpetological searches were conducted by overturning bark, logs and rocks while traversing the site.

Considering the scope of works proposed, no targeted surveys such as live trapping, nocturnal searches, deployment of bat echolocation detectors and so forth, were carried out.

3.4 HABITAT ASSESSMENT

The results of the desktop review and the field assessment were collated and reviewed in the context of local ecological knowledge to determine the likelihood of occurrence of threatened species and ecological communities, and potential impacts of the proposal (**Appendix C**). For instance, some threatened species may be predicted to occur locally but, on assessment of the site, key habitat elements or conditions are not present, in which case the species is assessed as not being present or impacted.

The likelihood of occurrence of threatened species, populations or ecological communities was categorised as follows:

- 'Present' – the species was observed or has been previously recorded on the site.
- 'High' – a medium to high probability that a species uses the site, based on nearby records and suitable habitat being present.
- 'Moderate' – suitable habitat for a species occurs within the impact areas, but the species has not been observed or previously recorded within the search area. Or, the species has been observed or previously recorded within the search area, but no associated PCTs occur within the impact areas.
- 'Low' – a very low likelihood that the species occurs within the site, based on the species distribution, lack of records within the search area, and/or lack of the preferred habitat type.
- 'Absent' – habitat on-site and in the vicinity is unsuitable for the species.

The species and ecological communities known or considered to have a moderate-high likelihood of occurring at the site, were then considered as to whether the development would be likely to impact on them. Tests of significance were completed for these entities in accordance with the BC Act (**Appendix D**) and EPBC Act (**Appendix E**), and the relevant guidelines for these assessments.

3.5 LIMITATIONS

This study is based upon the species data available at the time of the study, and the environmental conditions, season, and time constraints imposed by the project for the field survey. Specific limitations on this study include the following:

- Field surveys were completed over single days in June 2024 and 2025, which is not the optimal time of year to survey some fauna species. Therefore, the fauna list included is not considered comprehensive as a greater diversity of species are likely to use the site.
- Fauna trapping, frog surveys, aquatic surveys and nocturnal spotlighting were not undertaken for the current assessment.
- Microbat ultrasonic call capture and analysis was not undertaken.
- Certain plant species may not have been visible above ground at the time of the survey. Additionally, not all plant species were flowering, which may have made some species difficult to detect or identify. As such non-detection cannot be considered as actual absence.
- The field survey was undertaken in or very near to the subject site and plant community type extents outside of the subject site were not confirmed.

To overcome some of these limitations, a 'precautionary approach' for species presence has been adopted where required. If suitable habitat for a particular threatened species is present on the site or known to occur in the study area, then the species is assumed to also be present, and the impact assessment is completed on that basis (**Appendices D- E**).

The above-mentioned constraints were also considered when preparing the recommendations of avoiding, minimising, and mitigating potential impacts.

4. EXISTING ENVIRONMENT

4.1 BIOREGION

The subject site falls within the Pilliga Outwash subregion of the Brigalow Belt South Bioregion, as per the Interim Biogeographic Regionalisation of Australia (IBRA) (Thackway & Cresswell, 1995). This subregion is characterised by geology, landforms, soil types and vegetation as described in **Table 4-1**.

Table 4-1. Description of the Pilliga Outwash subregion (NSW NPWS 2003).

Bioregion	Brigalow Belt South
Subregion	Pilliga Outwash
Geology	Quaternary alluvial fans largely derived from Jurassic quartz sandstone.
Landforms	Long slopes broken by sandy abandoned stream channels, patches of heavy grey clay and incised stream channels.
Soils	Deep texture contrast soils with harsh clay subsoils, grey clay with gilgai.
Vegetation	Poplar box, pilliga box, Blakely's red gum, white cypress pine and mugga on coarser soils. Belah, brigalow, yarran, budda, wilga whitewood, rosewood on heavier soils. River red gum in creek lines, occasional silver-leaved ironbark, white box and fuzzy box in run-on sites.

4.2 NSW LANDSCAPES

The landscapes of NSW, previously known as Mitchell Landscapes, were mapped in 2002 to provide a framework for reporting and for determining over-cleared landscapes (Mitchell, 2002). These landscapes broadly describe areas of similar topography, geology, soils and vegetation. The subject site falls within the **Coghill Alluvial plains** landscape, with the **Baradine - Coghill Channels and Floodplains** landscape also occurring within the study area (see **Figure 4-1**). These landscapes are described below:

Barwon Channels and Floodplains

The Barwon Channels and Floodplains landscape features sandy incised channels and distributary streams located on Quaternary alluvium within the fans of Coghill and Baradine Creeks, originating from the sandstones of the Pilliga forest. It spans a general elevation of 170 to 210 meters with a local relief of 10 meters. The soils are characterized by deep texture-contrast soils with harsh clay subsoils, including grey clay with gilgai and uniform deep yellow sands. As the sediments and soils transition down valley, they merge with the Coghill Alluvial Plains ecosystem, supporting gallery woodlands dominated by river red gum (*Eucalyptus camaldulensis*). Other notable species include bumble box (*Eucalyptus populnea*), Pilliga box (*Eucalyptus pilligaensis*), Blakely's red gum (*Eucalyptus blakelyi*), white cypress pine (*Callitris glaucophylla*), red ironbark (*Eucalyptus sideroxylon*), and occasional silver-leaved ironbark (*Eucalyptus melanophloia*).

Over-clearing status: Not over-cleared. 20% of this landscape is estimated to have been cleared.

Coghill Alluvial Plains

The Coghill Alluvial Plains landscape comprises the distal parts of Quaternary alluvial fans formed from Jurassic quartz sandstone from the Pilliga forests. It features long, gentle slopes with sandy abandoned stream channels ("sand monkeys"), patches of heavy grey clay, and active incised channels. Local relief is up to 3 m. Soils are deep, texture-contrast with harsh clay subsoils and gilgai. Vegetation includes open forests of white cypress pine, bumble box, Pilliga box, Blakely's red gum, and mugga. Brown bloodwood and grass trees occur on sandy areas, with bull oak or brigalow on gilgai in heavy clay, and Baradine and river red gums along creek lines.

Over-clearing status: Not over-cleared. 40% of this landscape is estimated to have been cleared.

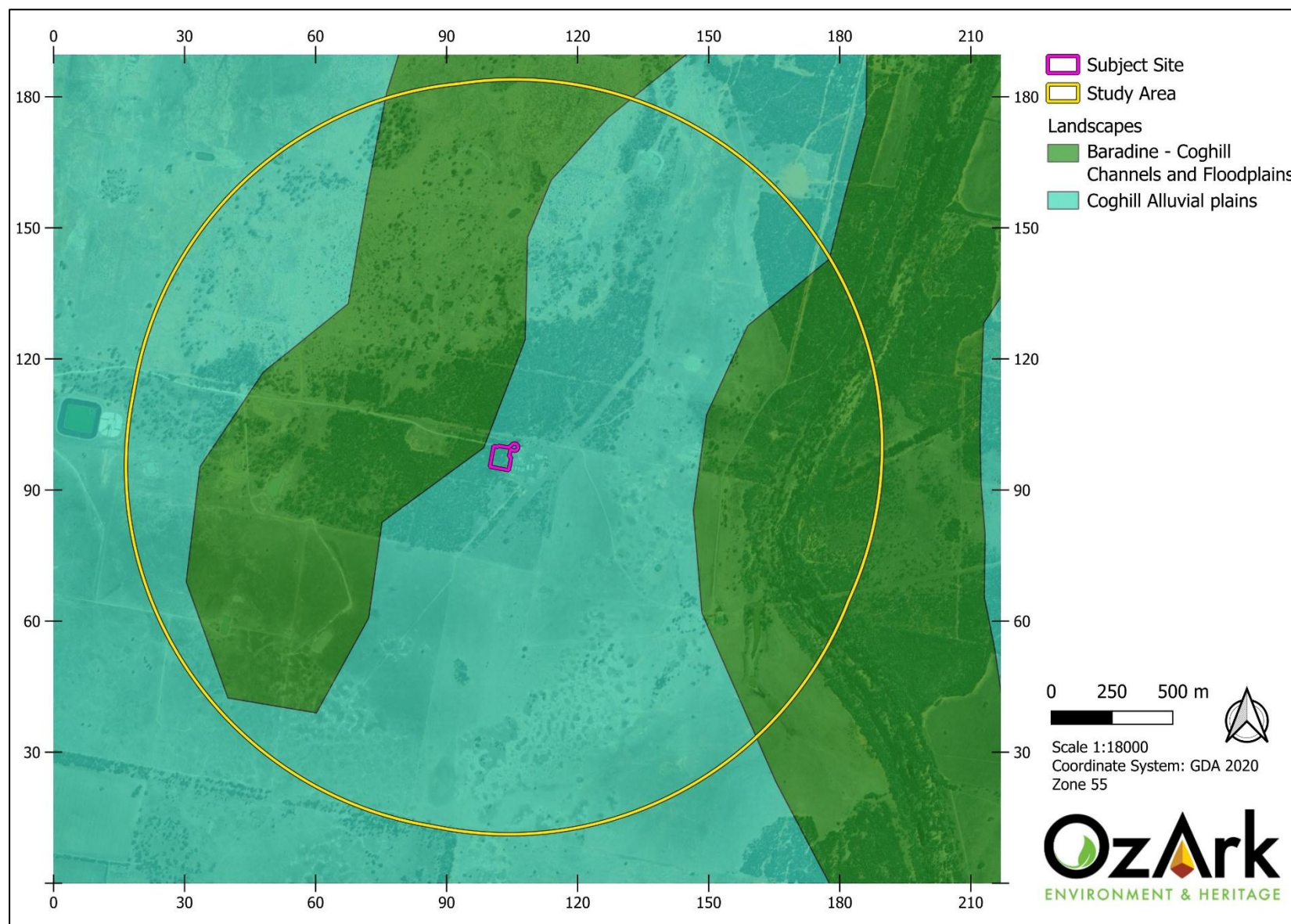


Figure 4-1. NSW landscapes within the study area.

4.3 WATERCOURSES

No watercourses occur within the subject site (**Figure 4-2**). However, eight watercourses occur within the study area:

- Five unnamed Strahler 1st order, minor, on-perennial watercourses,
- One unnamed Strahler 2nd order, minor, on-perennial watercourse,
- Pig Creek, a Strahler 1st and 2nd order, minor, on-perennial watercourse,
- Bohena Creek, a Strahler 6th order, major, perennial watercourse.

Pig Creek and Bohena Creek (440 m and 1130 m from the subject site, respectively) both contain Protected Riparian Land (PRL), as recognised by the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW). However, only Bohena Creek contains Key Fish Habitat (KFH) within the study area, as recognised by the Department of Primary Industries and Regional Development (DPIRD) – Fisheries, and Protected Riparian Land (PRL). Pig Creek forms KFH approximately 400 m north of the study area.

Additionally, one threatened fish population is mapped to Bohena Creek:

- Eel-Tailed Catfish in the Murray-Darling Basin (*Tandanus tandanus*) – listed as an endangered population under the FM Act.

Considering the distance between Bohena Creek and the subject site, the proposal is unlikely to significantly impact this threatened fish population or its habitat. Therefore, a test of significance was not carried out under the FM Act for this threatened fish population.

One endangered ecological community (EEC) listed under the FM Act, occurs within the study area, but not within the subject site (see **Section 5.3**). Given the EEC does not occur within the subject site a test of significance was not carried out under the FM Act for this aquatic EEC.

As the proposed works are not expected to interact with any natural waterways, tests of significance for threatened aquatic species/populations and EECs are not required under the FM Act. Further, the proposal will not involve dredging or reclamation in KFH; therefore, a permit under section 201 of the FM Act is not required. Provided mitigation measures outlined in **Section 7** are adhered to, the proposal is unlikely to significantly impact threatened fish species/populations, aquatic EECs, or their habitats.

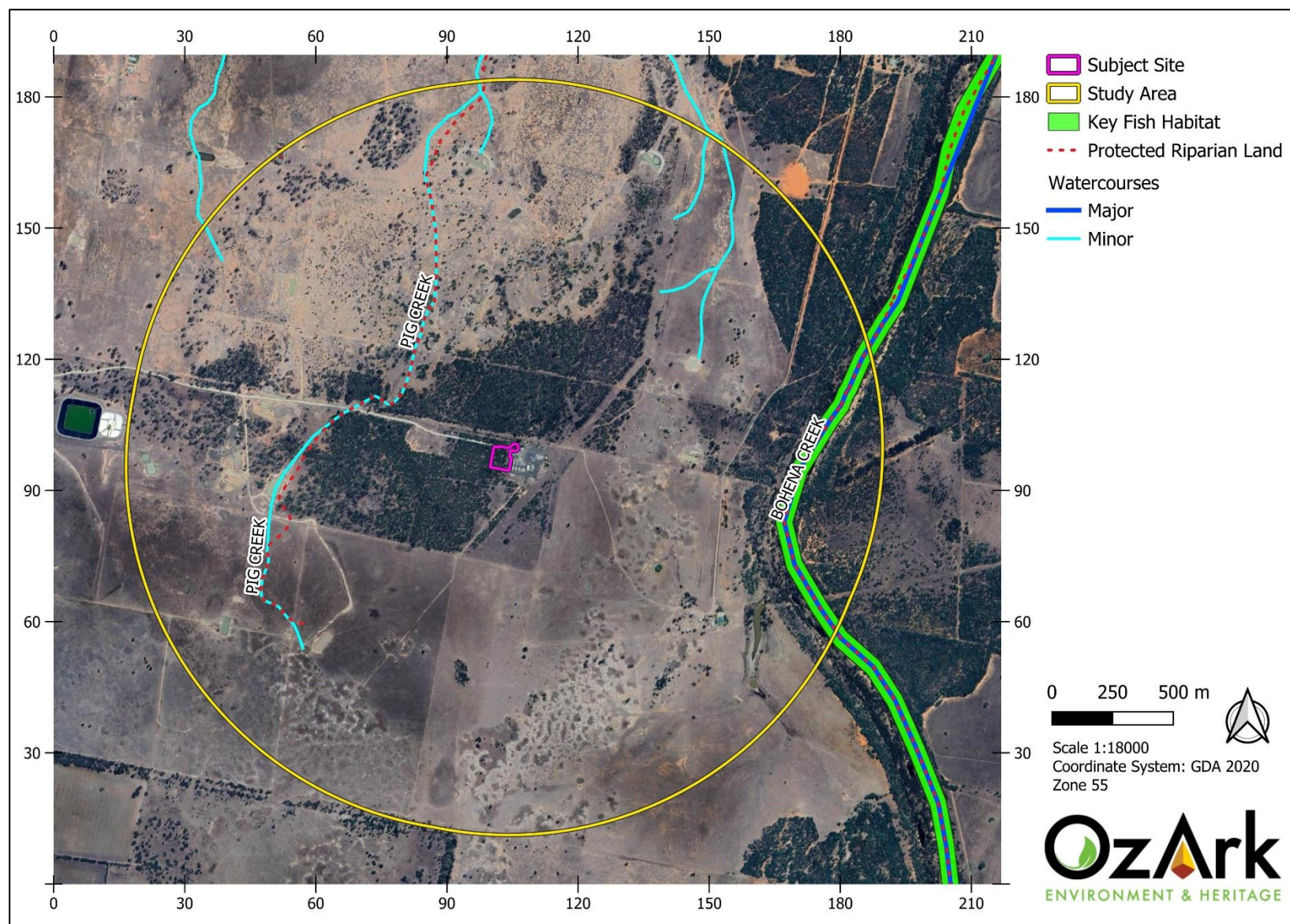


Figure 4-2. Watercourses, Key Fish Habitat, and Protected Riparian Land within the study area.

4.4 GROUNDWATER DEPENDENT ECOSYSTEMS

Groundwater plays an important ecological role in directly and indirectly supporting terrestrial and aquatic ecosystems. Groundwater sustains terrestrial and aquatic ecosystems by supporting vegetation and providing discharge to channels, lacustrine and palustrine wetlands, and both the estuarine and marine environment. Aquifer ecosystems are inherently groundwater dependent (QLD Department of Environment and Heritage Protection, 2017).

The probable vegetation GDE mapping for the Namoi River (NSW DCCEEW 2025) did not identify any potential GDEs within the subject site within the subject site (see **Figure 4-3**). The proposal does not include the extraction of groundwater. However, high, moderate and low potential GDEs were identified within the study area.

The proposal does not include the extraction of groundwater. Mitigation measures to reduce the proposals impact on Groundwater Dependent Ecosystems have been provided in **Section 7**.

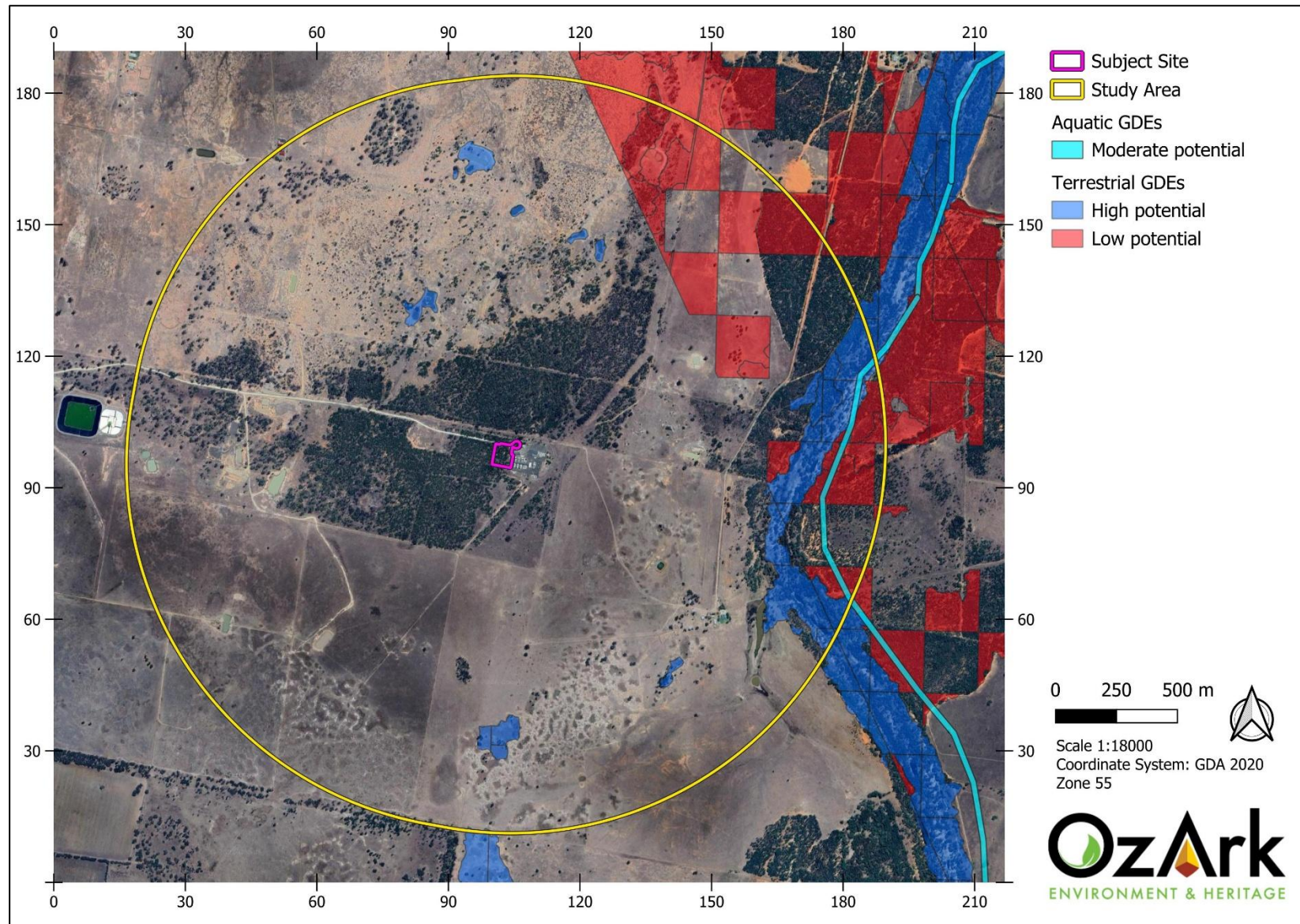


Figure 4-3. Groundwater Dependent Ecosystems (GDEs) within the study area.

4.5 CLIMATE

The nearest weather station with the most recently available data is the Narrabri Airport AWS (station number: 054038) is located ~15 km northwest of the subject site. Temperature and rainfall records at this station began in 2001 and ceased on the 5th of February 2026.

This area experiences warm summers, with the highest mean maximum temperature of 35.1°C experienced in January. Mild minimum temperatures are experienced during this summer period (January 20.5°C). Winters are cool, with temperatures in the coldest month (July) ranging from a minimum of 4.1°C to a mean maximum of 18.1°C (BOM 2026b; **Figure 4-4**).

An average of 581.7 mm of rainfall is recorded annually, with the summer months recording the greatest totals. January has the highest mean of 49.7 mm, followed by February (47.2 mm) and March (41.9 mm). Drier conditions are generally recorded in Autumn – Spring, with August recording the lowest mean rainfall of 21.4 mm, followed by September (24.7 mm) and July (27.8 mm) (BOM 2026b; **Figure 4-4**).

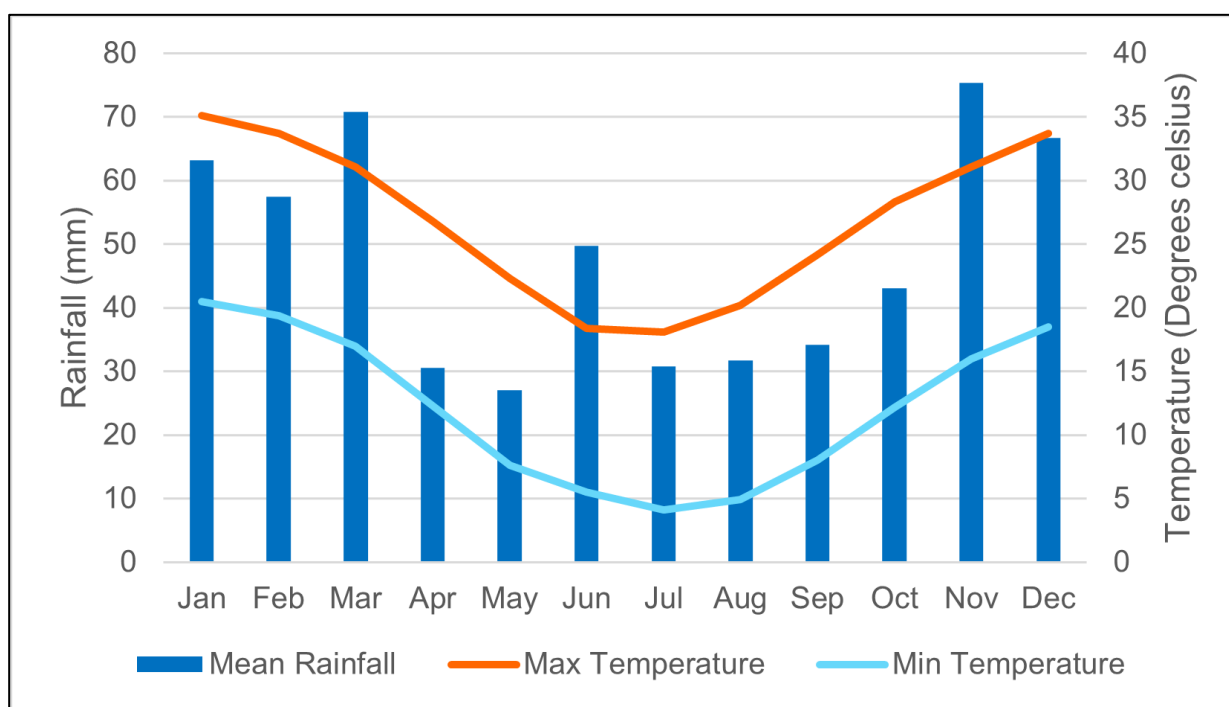


Figure 4-4. Climate data for Narrabri Airport AWS (station number: 054038), showing mean monthly rainfall and minimum/maximum temperatures (BOM 2026b).

5. RESULTS

5.1 PLANT COMMUNITY TYPES (PCTs)

Computer modelling, through the application of the NSW State Vegetation Type Map: C2.0.M2.1, predicted six PCTs to be present within the study area:

- PCT 35 - Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion,
- PCT 53 - Shallow freshwater wetland sedgeland in depressions on floodplains on inland alluvial plains and floodplains,
- PCT 397 - Poplar Box - White Cypress Pine shrub grass tall woodland of the Pilliga - Warialda region, Brigalow Belt South Bioregion,
- PCT 398 - Narrow-leaved Ironbark - White Cypress Pine - Buloke tall open forest on lower slopes and flats in the Pilliga Scrub and surrounding forests in the central north Brigalow Belt South Bioregion,
- PCT 399 - Red gum - Rough-barked Apple +/- tea tree sandy creek woodland (wetland) in the Pilliga - Goonoo sandstone forests, Brigalow Belt South Bioregion, and
- PCT 400 - Riparian sedgeland rushland wetland of the Pilliga to Goonoo sandstone forests, Brigalow Belt South Bioregion.

Neither of these predicted PCTs were detected during the field survey. Rather, a single PCT - PCT 411: Buloke - White Cypress Pine woodland on outwash plains in the Pilliga Scrub and Narrabri regions, Brigalow Belt South Bioregion – was detected within the subject site (see **Table 5-1** and **Figure 5-1**). Furthermore, PCT 416: Pilliga tank gilgai wetland sedgeland rushland, Brigalow Belt South Bioregion was detected on the edge of the project area, but not within the subject site (**Figure 5-1**). Potential indirect impacts to a threatened flora species (*Myriophyllum implicatum*) which may occur within this PCT is discussed in **Section 7** and **Appendix D**.

A list of all flora species encountered during the field survey and representative photographs of PCT 411 and PCT 416 are provided in **Appendix B**.

Table 5-1. Plant Community Types recorded within the subject site.

PCT ID	PCT Name	Area within Subject Site (ha)	Area within Irrigation Area (ha)*
411	Buloke - White Cypress Pine woodland on outwash plains in the Pilliga Scrub and Narrabri regions, Brigalow Belt South Bioregion	0.60	0.70
Total Native Vegetation		0.60	0.70
Non-native vegetation and bare ground		0.17	0.00
Total Area		0.76	0.70

*Note: no clearing of habitat is permissible within the irrigation area. Clearing is only permissible within the subject site.



Figure 5-1. Plant Community Types.

5.2 THREATENED ECOLOGICAL COMMUNITIES (TECs)

According to the BioNet Vegetation Classification Database, PCT 411 is not associated with a TEC. Therefore, no TECs occur within the subject site.

5.3 ENDANGERED AQUATIC ECOLOGICAL COMMUNITIES

Endangered aquatic ecological communities are determined by the NSW Fisheries Scientific Committee and are listed under the FM Act as aquatic systems that have undergone a very large reduction in ecological function, geographic distribution, or genetic diversity, and continue to be affected by a threatening process.

Natural watercourses within the search area form part of the Lowland Darling River aquatic ecological community (DPI 2007; **Figure 5-2**). This EEC includes all native fish and aquatic invertebrates within all natural creeks, rivers, streams and associated lagoons, billabongs, lakes, anabranches, flow diversions to anabranches and floodplains of the Darling River within NSW (DPI 2007). The nearest watercourses to the subject site include Pig Creek and Bohena Creek, both flowing northward to join the Namoi River approximately 12–15 km downstream. The subject site and irrigation area are situated approximately 440 m and 370 m from the nearest extent of this EEC at Pig Creek, respectively.

Furthermore, the proposed irrigation area is situated within a slight topographic depression at an elevation of approximately 226 m Australian Height Datum (AHD), enclosed by surrounding land at approximately 227 m AHD (Topographic-map.com 2025). This depression acts as a natural containment feature, with no obvious surface flow path connecting the irrigation area to Pig Creek, which sits at a lower elevation of approximately 224 m AHD. The intervening higher ground at 227 m AHD forms an effective topographic barrier between the irrigation area and Pig Creek, making it unlikely that treated water applied within the irrigation area would flow directly into the creek via surface flow under normal operating conditions.

Considering the distance and topography between the subject site/irrigation area and Pig Creek, an FM Act test of significance is not required, and no significant impacts are expected on this EEC.

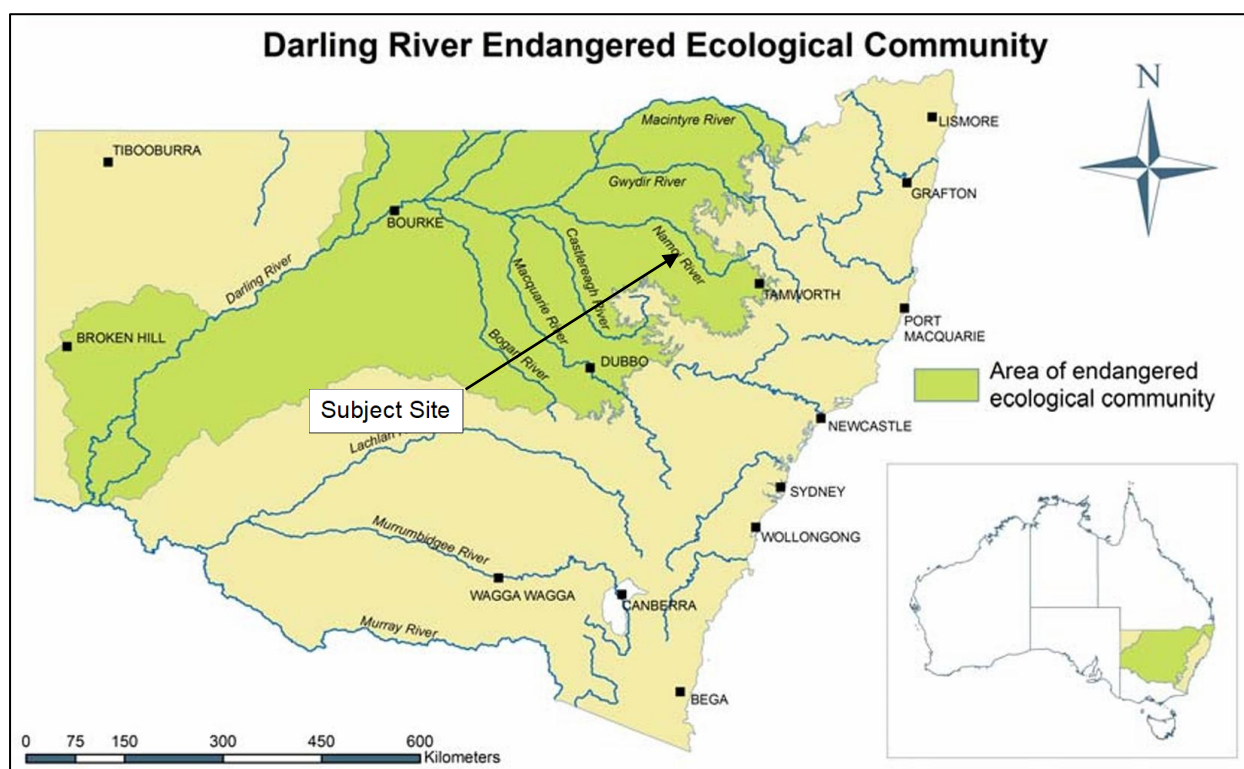


Figure 5-2. Area of the Darling River Endangered Ecological Community.

5.4 THREATENED AND MIGRATORY SPECIES AND POPULATIONS

Review of the Threatened Species Profiles database found that 133 threatened flora and fauna species or populations listed under the BC, FM, and/or EPBC Act are known or predicted to occur in the Liverpool Plains, Pilliga, and Pilliga Outwash Subregions of the Brigalow Belt South Bioregion. Based on proximity of past records, habitat requirements, and the results of the field survey, 52 species or populations were assessed as having a moderate-to-high likelihood of occurring within the subject site (**Appendix C**); these are listed in **Table 5-2**.

Five fauna species were observed during the field survey (**Appendix B**), none of which are threatened. Due to the short duration of the survey, and the lack of detailed targeted surveys for threatened species (e.g., trapping, nocturnal spotlighting, microbat ultrasonic call capture, etc), non-detection of other threatened species cannot be considered as confirmation of the absence of that species from the subject site.

Fifty-seven flora species were observed during the field survey (**Appendix B**), none of which were threatened. Due to the short duration of the survey, conducted in June (when few species are in flow) and the lack of detailed targeted surveys for threatened flora species, non-detection of a species cannot be considered as confirmation of the absence of that species from the subject site.

Table 5-2. BC Act & EPBC Act-listed threatened or migratory species with a moderate-high potential to utilize the subject site.

Scientific Name	Common Name	*NSW Status	+Comm. Status	Records within 10km
<i>Aphelocephala leucopsis</i>	Southern Whiteface	V,P	V	0
<i>Apus pacificus</i>	Fork-tailed Swift	P	C,J,K	2
<i>Ardeotis australis</i>	Australian Bustard	E1,P		0
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P		0
<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		0
<i>Calyptrorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	V,P,2	V	6
<i>Circus assimilis</i>	Spotted Harrier	V,P		2
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V,P	V	0
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		5
<i>Falco subniger</i>	Black Falcon	V,P		5
<i>Grantiella picta</i>	Painted Honeyeater	V,P	V	0
<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		5
<i>Hirundapus caudacutus</i>	White-throated Needletail	V,P	V,C,J,K	2
<i>Lathamus discolor</i>	Swift Parrot	E1,P	CE	0
<i>Lophochroa leadbeateri</i>	Pink Cockatoo	V,P,2	E	0
<i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		1
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	E1,P	E	0
<i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		1
<i>Ninox connivens</i>	Barking Owl	V,P,3		3
<i>Pachycephala inornata</i>	Gilbert's Whistler	V,P		0
<i>Parvipsitta pusilla</i>	Little Lorikeet	V,P		3
<i>Polytelis swainsonii</i>	Superb Parrot	V,P,3	V	1
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V,P		23
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	V,P		9
<i>Stagonopleura guttata</i>	Diamond Firetail	V,P	V	1
<i>Tyto novaehollandiae</i>	Masked Owl	V,P,3		0
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V,P		0
<i>Chalinolobus picatus</i>	Little Pied Bat	V,P		1
<i>Notamacropus dorsalis</i>	Black-striped Wallaby	E1,P		177
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	V,P	V	0
<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		1
<i>Phascolarctos cinereus</i>	Koala	E1,P	E	4
<i>Pseudomys pilligaensis</i>	Pilliga Mouse	V,P	V	0
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	1
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		6
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V,P		1
<i>Anomalopus mackayi</i>	Five-clawed Worm-skink	E1,P	V	1
<i>Hemiaspis damelii</i>	Grey Snake	E1,P	E	2
<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	V,P		0
<i>Androcalva procumbens</i>		V	V	0
<i>Bertya opponens</i>	Coolabah Bertya	V	V	1
<i>Cyperus conicus</i>		E1		0

Scientific Name	Common Name	*NSW Status	+Comm. Status	Records within 10km
<i>Dichanthium setosum</i>	Bluegrass	V	V	1
<i>Diuris tricolor</i>	Pine Donkey Orchid	V,P,2		1
<i>Lepidium aschersonii</i>	Spiny Peppercress	V	V	34
<i>Lepidium monoplacoides</i>	Winged Peppercress	E1	E	141
<i>Myriophyllum implicatum</i>		E4A,2		1
<i>Polygala linariifolia</i>	Native Milkwort	E1		1
<i>Pomaderris queenslandica</i>	Scant Pomaderris	E1		0
<i>Pterostylis cobarensis</i>	Greenhood Orchid	V,P,2		5
<i>Swainsona murrayana</i>	Slender Darling Pea	V	V	1
<i>Tylophora linearis</i>		V	E	1

*NSW Status: P=Protected, V=Vulnerable, E1=Endangered, E2=Endangered population, E4A=Critically endangered, 2=Category 2 sensitive species, 3=Category 3 sensitive species.

+ Comm. Status: C=CAMBA, J=JAMBA, K=ROKAMBA, CE=Critically endangered, E=Endangered, V=Vulnerable.

5.5 WILDLIFE CONNECTIVITY CORRIDORS

The subject site is situated on the edge of a remnant woodland patch within a landscape characterised by cleared agricultural and disturbed land uses. Whilst the remnant woodland patch provides localised habitat value, it is not strongly connected to other woodland patches across the broader landscape, with connectivity interrupted by cleared paddocks and infrastructure, including the adjacent power station. Given this reduced structural connectivity, the remnant patch is considered to function more prominently as a movement corridor for highly mobile species, particularly birds and certain bat species capable of traversing open or disturbed landscapes between patches, rather than for less mobile ground-dwelling fauna such as reptiles, small mammals, and invertebrates, which are more reliant on continuous vegetative cover for movement. The proposed development would result in some further fragmentation of habitat within the local landscape context; however, given the highly modified nature of the surrounding land and the existing degree of isolation of the remnant patch, the proposal is not anticipated to isolate any habitat that is not already functionally isolated. Considering the small size of the subject site (0.76 ha) and its position immediately adjacent to the existing power station infrastructure, the overall impact of the proposal on wildlife connectivity at the landscape scale is expected to be negligible.

Mitigation measures designed to reduce the impact of the proposal on wildlife connectivity and habitat fragmentation are provided in **Section 7**.

5.6 HABITAT FEATURES

No habitat trees (hollow- or nest-bearing trees) were detected during the field survey. However, scattered fallen timber was identified on-site. Fallen timber provides shelter, nesting, and foraging microhabitats for a range of fauna species. Given this habitat value, fallen timber should be

retained where possible or carefully relocated to a suitable area of remnant vegetation in the immediate vicinity, so that its ecological function is maintained within the local landscape.

5.7 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

Under the environmental assessment provisions of the EPBC Act, Matters of National Environmental Significance (MNES) and impacts on Commonwealth land are required to be considered to assist in determining whether the proposal should be referred to the Australian Government DCCEEW. The EPBC Act protected matters search has identified three wetlands of international importance, seven TECs, 30 threatened species, eight migratory species and 16 marine species that could possibly occur in the study area (**Appendix A**). A summary of these matters and whether the proposal is likely to impact them is provided in

Table 5-3. No entities listed under the EPBC Act are likely to be significantly impacted by the proposal (**Appendix E**).

Table 5-3. Impacts to Matters of National Environmental Significance and Commonwealth Land.

Consideration	Potential impact?
Any impact on a listed threatened species or communities?	Yes (non-significant, Appendix E)
Any impacts on listed migratory species?	Yes (non-significant, Appendix E)
Any impacts on a Ramsar wetland of international importance?	No
Any impacts on a Commonwealth marine environment?	No
Any impacts on a World Heritage property?	No
Any impacts on a National Heritage place?	No
Any impacts on the Great Barrier Reef Marine Park?	No
Does the proposal involve a nuclear action (including uranium mining)?	No
Any impact on a water resource, in relation to coal seam gas development and large coal mining development?	No
Additionally, any impact (direct or indirect) on Commonwealth land?	No

6. IMPACT ASSESSMENTS

6.1 DIRECT IMPACTS

6.1.1 IMPACTS ON NATIVE VEGETATION AND THREATENED ECOLOGICAL COMMUNITIES

The subject site is 0.76 ha in area, of which 0.16 ha is free from native vegetation (non-native vegetation and bare ground). The remaining 0.60 ha consists of native vegetation (PCT 411) that would be removed or disturbed by the proposal. PCT 411 is not associated with a BC or EPBC Act listed TEC.

Clearing of native vegetation is a KTP under the BC Act (see **Appendix F**). However, due to the relatively low magnitude of clearing required for this proposal, the impact is not considered to be significant. Nonetheless, efforts should be made to reduce the removal of native vegetation where possible (see **Section 7**).

In addition to the direct impacts associated with vegetation removal, an area of PCT 411 will also be subject to impacts resulting from the irrigation of treated water (**Figure 1-3; Table 6-1**). The irrigation area is 0.70 ha; however, the exact area of impact is unknown, as treated water has the potential to move beyond the boundaries of the designated irrigation area through surface flow or soil infiltration. As PCT 411 is represented by dry woodland habitat, the introduction of regular irrigation may lead to changed species composition and abundance. Furthermore, impacts to nearby wetland habitat are also possible and the potential impact on threatened flora is discussed below in **Section 6.1.2**.

Table 6-1. Treated water quality.

Parameter	Unit	Value
Water Volume		
Wastewater to be treated	kg/hr	267
Water for irrigation	kg/hr	187
Concentrated wastewater	kg/hr	80
Water Quality		
Carbon dioxide (CO ₂)	mg/L	40
Bicarbonate [HCO ₃ ⁻]	mg/L	32.3
Carbonate [CO ₃ ²⁻]	mg/L	0.002
Ammonium [NH ₄ ⁺]	mg/L	0.421
Total Dissolved Solids (TDS)	mg/L	52

6.1.2 IMPACTS ON THREATENED FLORA

Thirteen threatened plant species were assessed as having a moderate or greater potential of occurring at the subject site (**Table 5-2**), though none were detected during the field survey. However, due to the timing of the survey (i.e., June, when many species may not have been in

flower due to seasonal factors), non-detection cannot be considered as confirmation of their absence.

The 5-part test of significance and EPBC test of significance (if applicable) was applied to each species (**Appendix D & E**). Based on these assessments and provided the mitigation measures outlined in **Section 7** are adhered to, the results concluded that the proposal would not constitute a significant impact on these species or their habitats.

Of the species assessed, *Myriophyllum implicatum* represents the species of greatest concern in relation to the proposed development. *M. implicatum* is of particular concern given its extreme rarity and the potential for indirect impacts associated with the proposed wastewater irrigation. This species was previously thought to be extinct in NSW; however, the plant was recently discovered in Pilliga National Park, south of Narrabri, and the Pilliga National Park and Pilliga State Conservation Area sites are the only known extant populations of the species in NSW. The species is therefore confined to a highly restricted range, rendering any potential impact to a population of significant conservation concern. Further compounding this is the scarcity of suitable wetland habitat across the broader Pilliga landscape. A past record of the species has been identified within 9.7 km of the subject site, and potential habitat was recorded in the vicinity during the field survey, located approximately 28 m from the proposed wastewater irrigation area.

As outlined in the test of significance for this species (**Appendix D**), a population of *M. implicatum* could not be confirmed or excluded during the field survey conducted in June, as this falls outside the appropriate survey window for the species (October – February). Potential habitat for the species, identified as PCT 461 – Pilliga tank gilgai wetland sedgeland rushland, was recorded in the vicinity of the subject site, located approximately 28 m from the proposed wastewater irrigation area. Given this proximity, there is uncertainty regarding the potential for indirect impacts associated with the irrigation of treated water to adversely affect any population of the species that may be present. As such, a targeted survey for *M. implicatum* must be undertaken during the appropriate survey window prior to the commencement of irrigation operations. If the species is not detected, no further mitigation measures relating to *M. implicatum* are required and wastewater irrigation may proceed as planned. Should the species be detected, a monitoring program should be developed and implemented to assess whether the irrigation of treated water is resulting in any adverse impacts to the population. If the monitoring program identifies adverse impacts to the species or its habitat, adaptive management responses should be implemented to mitigate these impacts.

6.1.3 IMPACTS ON THREATENED FAUNA AND ASSOCIATED HABITAT

Thirty-nine threatened or migratory fauna species or populations listed under the BC and/or EPBC Act were considered to have a moderate, or greater, chance of occurring on the subject site (**Table 5-2**). No threatened fauna species were detected during the field survey, though no targeted fauna surveys (e.g., trapping, spotlighting) were conducted.

No habitat trees were detected during the field survey. However, the subject site did contain fallen timber. Where possible, fallen timber should be left in situ or relocated to a suitable place nearby.

The 5-part test of significance and EPBC test of significance (if applicable) was applied to each species (**Appendix D & E**). Based on these assessments and provided the mitigation measures outlined in **Section 7** are adhered to, the results concluded that the proposal would not constitute a significant impact on these species or their habitats.

6.1.4 FAUNA INJURY AND MORTALITY

During the construction phase of the proposal, the removal of vegetation and habitat features (e.g., fallen timber) is likely to disturb fauna. In addition, fauna may become trapped in or may choose to shelter in machinery that is stored in the study area overnight. If these animals were to remain inside the machinery, or under the wheels or tracks, they may be injured or die once the machinery is in use. Mitigation measures designed to reduce injury and mortality of fauna are provided in **Section 7**.

6.2 INDIRECT/OPERATIONAL IMPACTS

6.2.2 EDGE EFFECTS ON ADJACENT NATIVE VEGETATION AND HABITAT

The subject site occurs within an area that is currently subject to a moderate-high level of edge effects from historical land clearing and the development of infrastructure. The clearance of vegetation associated with this project will further increase the impacts of edge effects on the adjacent native vegetation. This may result from changes in abiotic factors (e.g., the microclimate) or from biotic factors associated with colonisation. Weed encroachment, which is a significant edge effect, is considered further below.

6.2.3 INVASION AND SPREAD OF WEEDS

Three weed species listed as High-threat Exotic Species (HTE) under the BAM were recorded during the site survey (**Table 6-2**). One of these species – African Boxthorn (*Lycium ferocissimum*) and Common Prickly Pear (*Opuntia stricta*) – are also considered a Weeds of National Significance (WoNS) and as Priority Weeds (PW) for the North West Local Land Services (LLS) region and/or NSW. See **Appendix B** for a full list of exotic species recorded on site.

Table 6-2. List of significant weeds recorded from the subject site.

Growth Form ¹	Scientific name	Common name	HTE ²	WoNS ³	PW ⁴
GG	<i>Eragrostis curvula</i>	African Lovegrass	Yes	No	No
SG	<i>Lycium ferocissimum</i>	African Boxthorn	Yes	Yes	Yes
OG	<i>Opuntia stricta</i>	Common Prickly Pear	Yes	Yes	Yes

¹Growth form: GG = Grass and Grass-like, SG = Shrub, OG = Other. ²High-threat exotic species (Yes/No). ³Weed of National Significance (Yes/No). ⁴Priority weed for the region (Yes/No).

Seven processes related to weed invasion are listed as KTPs under the BC Act and/or EPBC Act (see also **Appendix F**):

- Invasion and establishment of exotic vines and scramblers (BC Act),
- Invasion and establishment of Scotch Broom (BC Act),
- Invasion of native plant communities by African Olive (BC Act),
- Invasion of native plant communities by *Chrysanthemoides monilifera* (BC Act),
- Invasion of native plant communities by exotic perennial grasses (BC Act),
- Invasion, establishment and spread of *Lantana* (BC Act), and
- Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants (BC and EPBC Act).

The most likely causes of weed dispersal and importation associated with the proposal include earthworks, movement of soil, and attachment of seed (and other propagules) to vehicles and machinery. Mitigation measures designed to limit the spread of weeds are provided in **Section 7**. If these mitigation measures are followed, the likelihood of invasion and spread of weeds is low.

6.2.4 INVASION AND SPREAD OF PESTS

The study area is likely already habitat for a range of pest species, with evidence of pigs observed on site.

Several processes related to pests are listed as KTPs under the BC and EPBC Act. For example:

- Competition and land degradation by rabbits
- Competition and land degradation by unmanaged goats
- Predation by European red fox
- Predation by feral cats
- Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs

Mitigation measures designed to limit the spread of pests are provided in **Section 7**. Providing these mitigation measures are followed, ease of access for feral pests is not expected to be increased by the proposal.

6.2.5 INVASION AND SPREAD OF PATHOGENS AND DISEASE

Several pathogens known from NSW have potential to impact on biodiversity as a result their movement and infection during construction. Of these, four are listed as KTPs under the BC and/or EPBC Act (see **Appendix F**) including:

- Introduction and establishment of exotic rust fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae (BC Act).
- Infection of native plants by *Phytophthora cinnamomi* (BC and EPBC Act)
- Infection of frogs by amphibian chytrid fungus causing the disease chytridiomycosis (BC and EPBC Act).
- Infection by psittacine circoviral (beak and feather) disease affecting endangered psittacine species and populations (BC and EPBC Act).

These pathogens were not observed or tested for in the study area. The most likely causes of pathogen dispersal and importation associated with the proposal include earthworks, movement of soil, and attachment of plant matter to vehicles and machinery during construction. Additionally, psittacine circoviral (beak and feather) disease can be exacerbated by the loss of tree hollows; however, this would not occur as a result of this project as no hollow-bearing trees are present.

Mitigation measures designed to limit the invasion and spread of pathogens and disease are provided in **Section 7**. If these mitigation measures are followed, the likelihood of invasion and spread of pathogens and disease is low.

6.2.6 NOISE AND VIBRATION

The proposal would cause a short-term increase in noise and vibration during construction. This may result in fauna temporarily avoiding habitats adjacent to the construction. Minor noise and vibration impacts are also anticipated during operation, though these would be limited in extent. The significance of this impact is further reduced by the neighbouring active power station which generates substantial baseline noise and human activity. As such, any minor additional noise and vibration from both construction and operation of the CO₂ plant is unlikely to meaningfully increase disturbance to local fauna.

The magnitude of this impact would be low, and several mitigation measures are provided in **Section 7**.

6.3 CUMULATIVE IMPACTS

The potential biodiversity impacts of the proposal must be considered as a consequence of the construction and operation of the proposal within the existing environment. The proposal would

not act alone in causing impacts to biodiversity. The incremental effects of multiple sources of impact (past, present and future) are referred to as cumulative impacts and provide an opportunity to consider the proposal within a strategic context.

In general, the accumulating impacts of historic vegetation clearing for agriculture, rural development, and development and maintenance of infrastructure have contributed to the loss of biodiversity in the Brigalow Belt South Bioregion. The proposal will not significantly increase the loss of biodiversity within the region, as only 0.60 ha of native vegetation will be removed.

6.4 IMPACT SUMMARY

Assessments of Significance have been conducted for all threatened and/or migratory species and populations that have been positively identified within the subject site or that are considered to have a moderate-high likelihood of occurring (**Appendices D-E**); based on these assessments, the proposal will not have a significant impact on any threatened entity listed under the BC and EPBC Act. However, opportunities to avoid and minimise impacts should be considered in finalising the proposal.

7. AVOID, MINIMISE AND MITIGATE IMPACTS

A key part of the proponent's management of biodiversity for this proposal is the application of the 'avoid, minimise, mitigate and offset' hierarchy, as follows:

1. Avoid and minimise impacts as the highest priority
2. Mitigate impacts where avoidance is not feasible or practicable in the circumstance
3. Offset where residual, significant unavoidable impacts would occur

7.1 AVOIDANCE AND MINIMISATION

The following avoid and minimisation measures are proposed:

- To avoid impacts associated with weed introduction and spread, inspect all machinery before entering and exiting the subject site. Machinery must be clean of all mud, soil and vegetation material.

In addition, the following minimisation measures are proposed:

- The construction works and vehicle access to the construction site is to be constrained to the minimum area practical. The proposed access will provide the sole access to the construction site.
- Material stockpiles, equipment and machinery storage and laydown areas will be consolidated within a defined impact area to minimise the overall impact footprint.
- Edge effects will be reduced by avoiding unnecessary vehicle and personnel movements across surrounding land outside of the subject site.
- Large logs must be carefully relocated to avoid crushing, so as to protect any fauna sheltering beneath or within them from injury.
- Prior to the commencement of wastewater irrigation operations, a targeted survey for *Myriophyllum implicatum* will be undertaken within the PCT 461 – Pilliga tank gilgai wetland sedgeland rushland habitat located approximately 28 m from the proposed irrigation area. The survey would be conducted during the appropriate survey window for the species (October – February) by a suitably qualified botanist.
 - **If the species is not detected**, no further mitigation measures relating to *Myriophyllum implicatum* are required and wastewater irrigation may proceed as planned.
 - **If the species is detected**, wastewater irrigation cannot commence until a monitoring program has been developed and approved. The monitoring program

would seek to determine whether the species is being adversely impacted by the wastewater irrigation and should include, at a minimum:

- Baseline documentation of the population size, extent, and condition prior to irrigation commencing;
- Periodic monitoring of the population at appropriate intervals throughout the irrigation period;
- Defined trigger thresholds for population decline or habitat condition that would prompt a review of irrigation activities; and
- Adaptive management responses to be implemented in the event that adverse impacts are detected.

7.2 MITIGATION MEASURES

Mitigation measures should be undertaken during the construction and operational phases, including managing the vegetation clearing process, weed management, and installation of erosion and sediment controls as appropriate.

The following mitigation measures are recommended for implementation (see **Table 7-1**).

Table 7-1: Mitigation measures and environmental safeguards recommended for implementation.

Aspect	Environmental safeguards	Responsibility	Timing
General	- Any change in design outside the assessed impact footprint (subject site) will require further ecological survey and assessment. - All personnel working on site will be made aware of the environmental sensitivities of the site and safeguards/mitigations to be implemented, e.g., site induction and 'toolbox' style briefings. This includes all native vegetation and potential threatened flora and fauna that may be present (see Table 5-2). Evidence of all personnel receiving an induction will be kept on file (e.g., signed induction sheets).	Proponent	Pre-construction, construction, operation
Clearing of native vegetation	- All construction personnel should be inducted to be aware that any deliberate or accidental damage of a stand of native vegetation outside the subject site has legislative consequences under Part 4 or 5 of the EP&A Act. Evidence of all personnel receiving this induction would be kept on file (signed induction sheets etc.). - Before starting work, a physical vegetation clearing boundary at the approved clearing limit is to be demarcated and implemented. The delineation of such a boundary may include the use of temporary fencing, parawebbing or similar. - All construction personnel should be inducted to be aware of the potential presence of those threatened flora species listed in Table 5-2. If any threatened flora species are encountered, construction must stop in the immediate area and an ecologist should be consulted for advice and guidance before proceeding with works. - Vegetation would be removed in such a way as to avoid damage to surrounding vegetation. - Groundcover disturbance would be kept to a minimum. - Any stockpile and compound sites should be located using the following criteria: - At least 40 m away from the nearest waterway - In areas of low ecological conservation significance (i.e. previously disturbed land) - On relatively level ground - Outside the one in 10-year Average Recurrence Interval (ARI) floodplain - Stockpiling materials and equipment and parking vehicles would be avoided within the dripline (extent of foliage cover) of any tree. - Where possible, vegetation to be removed would be mulched on-site and re-used to stabilise disturbed areas.	Proponent / contractor	Pre-construction, construction
Accidental death of fauna	- If threatened fauna species are discovered, stop works immediately and contact a suitably qualified ecologist for advice. - If trapped or stressed fauna are encountered, a fauna spotter catcher or wildlife handler should be engaged to remove the animal(s) and relocate them nearby, or if necessary, deliver them to a veterinarian or wildlife carer for rehabilitation.	Contractor	Construction

Aspect	Environmental safeguards	Responsibility	Timing
Lighting	Any artificial lighting to be used during construction or operation should follow the Best Practice Lighting Design within the National Light Pollution Guidelines (DoEE 2020). In particular, all lighting should be kept close to the ground, directed, and shielded to avoid light spill.	Contractor	Pre-construction, construction
Threatened species	- Provide identification resources for personnel to enable identification of threatened species that might occur on the work site, i.e. those species listed in Table 5-2. - Construction work to occur only during daylight hours to avoid indirect impacts on threatened fauna such as vehicle strikes. - If threatened fauna or flora species are discovered, stop works immediately and contact a suitably qualified ecologist for advice. - Prior to the commencement of wastewater irrigation operations, a targeted survey for <i>Myriophyllum implicatum</i> will be undertaken within the PCT 461 – Pilliga tank gilgai wetland sedgeland rushland habitat located approximately 28 m from the proposed irrigation area. The survey would be conducted during the appropriate survey window for the species (October – February) by a suitably qualified botanist. If the species is not detected, no further mitigation measures relating to <i>Myriophyllum implicatum</i> are required and wastewater irrigation may proceed as planned. If the species is detected, wastewater irrigation cannot commence until a monitoring program has been developed and approved. The monitoring program would seek to determine whether the species is being adversely impacted by the wastewater irrigation and should include, at a minimum: - Baseline documentation of the population size, extent, and condition prior to irrigation commencing; - Periodic monitoring of the population at appropriate intervals throughout the irrigation period; - Defined trigger thresholds for population decline or habitat condition that would prompt a review of irrigation activities; and - Adaptive management responses to be implemented in the event that adverse impacts are detected.	Contractor	Pre-construction and construction
Soil Management	- Install erosion and sediment controls in line with Landcom's Managing Urban Stormwater, Soils & Construction Guidelines (The Blue Book. Landcom 2004). - Where practicable, spread mulch made from vegetation cleared on site on areas of bare soil to stabilise, preventing dust and erosion. - Erosion and sedimentation controls are to be checked and maintained on a regular basis. This includes clearing of sediment from behind barriers and after heavy rainfall events.	Contractor	Pre-construction and construction

Aspect	Environmental safeguards	Responsibility	Timing
	- Erosion and sediment control measures are not to be removed until the works are complete and areas are stabilised. - Stockpile topsoil removed to be redistributed across site at completion of construction. - Implement dust suppression activities.		
Introduction and spread of priority weeds and pathogens	- Construction crew should be briefed on the identification of priority weeds that occur on site during inductions (see Table 6-2). - If declared priority weeds are identified during construction, they will be managed according to the requirements of the <i>Biosecurity Act 2015</i>. - Construction machinery (bulldozers, excavators, trucks, loaders and graders) will be cleaned using a high-pressure washer or other suitable device before entering and exiting work sites. - Machinery will be inspected by designated personnel following washdown to ensure no soil, mud, or vegetative material remains. Records of inspections to be maintained. - All pesticides will be used in accordance with the requirements on the label. Any person carrying out pesticide (including herbicide) application will be trained to do so and have the proper certificate of completion/competency or statement of attainment issued by a registered training organisation. - Keep records of any weed control activities that take place.	Contractor	Construction
Disturbance to fallen timber, dead wood, and bush rock	- Any fallen timber, dead wood, and bush rock encountered on site would be left <i>in situ</i> (where possible) or relocated to a suitable place nearby. - Large logs must be carefully relocated to avoid crushing, so as to protect any fauna sheltering beneath or within them from injury.	Contractor	Construction
Rehabilitating cleared areas	- Revegetation of any bare soil or cleared areas with locally occurring native flora species typical of the original habitat types is usually recommended. - Stockpiled topsoil to be re-spread over cleared areas.	Proponent, contractor	Construction and post-construction
Exacerbating invasive fauna	All food scraps and rubbish are to be appropriately disposed of in sealed receptacles to prevent providing forage habitats for foxes, rats, pigs, dogs, and cats.	Contractor	Construction
Increased risk of fire	If any "hot works" are to be undertaken, these activities will not take place on days of extreme fire danger or days of declared total fire ban. See NSW Rural Fire Service website (https://www.rfs.nsw.gov.au/) for current fire danger ratings and total fire ban declaration areas.	Contractor	Construction

8. CONCLUSION

OzArk has been engaged by Onward, on behalf of Supagas, to complete a biodiversity assessment for the proposed Supagas CO₂ plant. The proposal occurs within the Narrabri LGA.

A BDAR is not required for this proposal as the impact footprint does not overlap with any land mapped on the Biodiversity Values Map, does not exceed the clearing threshold for the relevant lot, and is not expected to result in significant impacts to any threatened entity listed under the BC Act. As such, the proposal will not trigger entry into the BOS, and a BAR is the appropriate level of assessment.

Field surveys of the site were conducted in June 2024 and 2025. One PCT was recorded within the subject site:

- PCT 411 – Buloke - White Cypress Pine woodland on outwash plains in the Pilliga Scrub and Narrabri regions, Brigalow Belt South Bioregion.

This PCT was assessed against the threshold criteria for all TECs listed under the BC Act and the EPBC Act recorded for the relevant IBRA subregions. No TECs were found to occur within the subject site.

No naturally occurring watercourses occur within the subject site; however, eight watercourses occur within the study area. Of these, Pig Creek and Bohena Creek (440 m and 1130 m from the subject site, respectively) both contain PRL, as recognised by the NSW DCCEEW. However, only Bohena Creek contains KFH within the study area, as recognised by the DPIRD – Fisheries. Considering the closest natural watercourse to the subject site (Pig Creek) is located 440 m from the subject site, a permit under the FM Act is not required and no tests of significance were undertaken under the FM Act.

No habitat trees (hollow- or nest-bearing trees) were detected during the field survey. However, scattered fallen timber was identified on-site. Fallen timber provides shelter, nesting, and foraging microhabitats for a range of fauna species. Given this habitat value, fallen timber should be retained where possible or carefully relocated to a suitable area of remnant vegetation in the immediate vicinity, so that its ecological function is maintained within the local landscape.

Five fauna species were detected during the initial field survey. No fauna species or populations listed as threatened under the BC or EPBC Act were observed. Due to the short duration of the survey, and the lack of detailed targeted surveys for threatened species (e.g., trapping, nocturnal spotlighting, microbat ultrasonic call capture, etc), the non-detection of threatened fauna species cannot be considered as confirmation of their absence. Based on the proximity of past records, habitat requirements, and the results of the field survey, 39 threatened and/or migratory fauna

species were assessed as having a moderate-to-high likelihood of occurring at the subject site. Tests of significance have been conducted for these species under the BC, and/or EPBC Act; these tests concluded that provided mitigations are adhered to, the proposal would not result in a significant impact to any threatened fauna species.

Fifty-seven flora species were detected during the field surveys. No flora species or populations listed as threatened under the BC or EPBC Act were observed. Given the short duration of the field survey, and the lack of targeted flora surveys, the non-detection of threatened flora species cannot be considered as confirmation of their absence. Based on the proximity of past records, habitat requirements, and the results of the field surveys, 13 threatened flora species were assessed as having a moderate-to-high likelihood of occurring at the subject site. Tests of significance have been conducted for these species under the BC and EPBC Act; these tests concluded that the proposal would not result in a significant impact to any threatened flora species.

Of the species assessed, *Myriophyllum implicatum* represents the species of greatest concern in relation to the proposed development. As outlined in the test of significance for this species, a population of *M. implicatum* could not be confirmed or excluded during the field survey conducted in June, as this falls outside the appropriate survey window for the species (October – February). Potential habitat for the species, identified as PCT 461 – Pilliga tank gilgai wetland sedgeland rushland, was recorded in the vicinity of the subject site, located approximately 28 m from the proposed wastewater irrigation area. Given this proximity, there is uncertainty regarding the potential for indirect impacts associated with the irrigation of treated water to adversely affect any population of the species that may be present. As such, a targeted survey for *M. implicatum* must be undertaken during the appropriate survey window prior to the commencement of irrigation operations. Should the species be detected, a monitoring program should be developed and implemented to assess whether the irrigation of treated water is resulting in any adverse impacts to the population. If the monitoring program identifies adverse impacts to the species or its habitat, adaptive management responses should be implemented to mitigate these impacts.

This assessment covers the current form of the proposal. Any change to the scope of work may require re-assessment. If entry into the BOS is triggered by a changed scope, additional field work and reporting completed according to the BAM 2020 may be required.

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APPENDIX A – DATABASE SEARCH RESULTS

EPBC Act Protected Matters Report



Australian Government

Department of Climate Change, Energy,
the Environment and Water

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. Please see the caveat for interpretation of information provided here.

Report created: 02-Jun-2026

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment 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 (Ramsar)	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	30
Listed Migratory Species:	8

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 <https://www.dcceew.gov.au/parks-heritage/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 Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [\[Resource Information \]](#)

Ramsar Site Name	Proximity
Banrock station wetland complex	900 - 1000km upstream from Ramsar site
Riverland	900 - 1000km upstream from Ramsar site
The coorong, and lakes alexandrina and albert wetland	1100 - 1200km upstream from Ramsar site

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.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community may occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may 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 may occur within area

Listed Threatened Species		[Resource Information]
Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.		
Scientific Name	Threatened Category	Presence Text
BIRD		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<u>Lathamus discolor</u> Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
<u>Leipoa ocellata</u> Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
<u>Lophochroa leadbeateri leadbeateri</u> Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo, Pink Cockatoo (eastern) [82926]	Endangered	Species or species habitat may occur within area
<u>Melanodryas cucullata cucullata</u> South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area
<u>Neophema chrysostoma</u> Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area
<u>Polytelis swainsonii</u> Superb Parrot [738]	Vulnerable	Species or species habitat may occur within area
<u>Rostratula australis</u> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<u>Stagonopleura guttata</u> Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area
FROG		
<u>Crinia sloanei</u> Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area
MAMMAL		
<u>Chalinolobus dwyeri</u> Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area
<u>Nyctophilus corbeni</u> Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<u>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</u>		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area
PLANT		
<u>Cadellia pentastylis</u>		
Ooline [9828]	Vulnerable	Species or species habitat may occur within area
<u>Dichanthium setosum</u>		
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
<u>Lepidium aschersonii</u>		
Spiny Peppercress [10976]	Vulnerable	Species or species habitat likely to occur within area
<u>Lepidium monoplacoides</u>		
Winged Pepper-cress [9190]	Endangered	Species or species habitat likely to occur within area
<u>Swainsona murrayana</u>		
Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat may occur within area
<u>Thesium australe</u>		
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
REPTILE		
<u>Anomalopus mackayi</u>		
Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat likely to occur within area
<u>Hemiaspis damelii</u>		
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area
Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
<u>Apus pacificus</u>		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		

Scientific Name	Threatened Category	Presence Text
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		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]	Vulnerable	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]	Vulnerable	Species or species habitat may occur within area
Other Matters Protected by the EPBC Act		
Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
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 overfly marine area

Scientific Name	Threatened Category	Presence Text
<u>Bubulcus ibis as Ardea ibis</u> Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
<u>Calidris acuminata</u> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<u>Calidris ferruginea</u> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
<u>Calidris melanotos</u> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
<u>Chalcites osculans as Chrysococcyx osculans</u> Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
<u>Gallinago hardwickii</u> Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area
<u>Haliaeetus leucogaster</u> White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
<u>Hirundapus caudacutus</u> White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
<u>Lathamus discolor</u> Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area
<u>Merops ornatus</u> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [726]		Species or species habitat may occur within area overfly marine area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Extra Information		
EPBC Act Referrals		[Resource Information]
Title of referral	Reference	Referral Outcome Assessment Status
Western Slopes Pipeline	2017/7894	Completed
Controlled action		
Narrabri Gas Project, approx 20 and 45kms south of Narrabri, NSW	2014/7376	Controlled Action Post-Approval
Not controlled action		
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action Completed
Bioregional Assessments		[Resource Information]
SubRegion	BioRegion	Website
Namoi	Northern Inland Catchments	BA website

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and 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

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

Where little information is available for a 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 detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

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.

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BioNET Atlas search – threatened species predicted to occur within the Liverpool Plains, Pilliga, and Pilliga Outwash Subregions of the Brigalow Belt South Bioregion.

Class	Scientific Name	Common Name	*NSW status	+Comm Status	Records
Amphibia	<i>Crinia sloanei</i>	Sloane's Froglet	E1,P	E	K
Aves	<i>Alectura lathamii</i>	Australian Brush-turkey population in the Nandewar and Brigalow Belt South Bioregions	E2,P		13
Aves	<i>Anseranas semipalmata</i>	Magpie Goose	V,P		61
Aves	<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A,P,2	CE	93
Aves	<i>Antigone rubicunda</i>	Brolga	V,P		24
Aves	<i>Aphelocephala leucopsis</i>	Southern Whiteface	V,P	V	78
Aves	<i>Apus pacificus</i>	Fork-tailed Swift	P	C,J,K	33
Aves	<i>Ardeotis australis</i>	Australian Bustard	E1,P		6
Aves	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P		1282
Aves	<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1,P	E	5
Aves	<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		22
Aves	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V,P	V,C,J,K	3
Aves	<i>Calidris ruficollis</i>	Red-necked Stint	P	C,J,K	8
Aves	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E1,P,3	E	2
Aves	<i>Calyptorhynchus lathamii lathamii</i>	South-eastern Glossy Black-Cockatoo	V,P,2	V	1461
Aves	<i>Certhionyx variegatus</i>	Pied Honeyeater	V,P		1
Aves	<i>Circus assimilis</i>	Spotted Harrier	V,P		163
Aves	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V,P	V	1872
Aves	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		816
Aves	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1,P		12
Aves	<i>Epthianura albifrons</i>	White-fronted Chat	V,P		11
Aves	<i>Falco hypoleucos</i>	Grey Falcon	V,P,2	V	5
Aves	<i>Falco subniger</i>	Black Falcon	V,P		81
Aves	<i>Gallinago hardwickii</i>	Latham's Snipe	V,P	V,J,K	52
Aves	<i>Gelochelidon nilotica</i>	Gull-billed Tern	P	C	1
Aves	<i>Grantiella picta</i>	Painted Honeyeater	V,P	V	150
Aves	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P		26
Aves	<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	V,P,3		4
Aves	<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		212
Aves	<i>Hirundapus caudacutus</i>	White-throated Needletail	V,P	V,C,J,K	258
Aves	<i>Hydroprogne caspia</i>	Caspian Tern	P	J	21
Aves	<i>Ixobrychus flavicollis</i>	Black Bittern	V,P		1
Aves	<i>Lathamus discolor</i>	Swift Parrot	E1,P	CE	98
Aves	<i>Leipoa ocellata</i>	Malleefowl	E1,P	V	97
Aves	<i>Limosa limosa</i>	Black-tailed Godwit	E1,P	E,C,J,K	P
Aves	<i>Lophochroa leadbeateri</i>	Pink Cockatoo	V,P,2	E	44
Aves	<i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		110
Aves	<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	E1,P	E	289
Aves	<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	V,P		125
Aves	<i>Neophema chrysostoma</i>	Blue-winged Parrot	V,P	V	8
Aves	<i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		1241
Aves	<i>Ninox connivens</i>	Barking Owl	V,P,3		756
Aves	<i>Ninox strenua</i>	Powerful Owl	V,P,3		11
Aves	<i>Numenius minutus</i>	Little Curlew	P	C,J,K	2

Class	Scientific Name	Common Name	*NSW status	+Comm Status	Records
Aves	<i>Oxyura australis</i>	Blue-billed Duck	V,P		8
Aves	<i>Pachycephala inornata</i>	Gilbert's Whistler	V,P		10
Aves	<i>Parvipsitta pusilla</i>	Little Lorikeet	V,P		1000
Aves	<i>Petroica boodang</i>	Scarlet Robin	V,P		46
Aves	<i>Petroica phoenicea</i>	Flame Robin	V,P		14
Aves	<i>Phaethon rubricauda</i>	Red-tailed Tropicbird	V,P	C,J	2
Aves	<i>Polytelis swainsonii</i>	Superb Parrot	V,P,3	V	126
Aves	<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V,P		3700
Aves	<i>Pyrholaemus sagittatus</i>	Speckled Warbler	V,P		2951
Aves	<i>Rostratula australis</i>	Australian Painted Snipe	E1,P	E	15
Aves	<i>Stagonopleura guttata</i>	Diamond Firetail	V,P	V	471
Aves	<i>Stictonetta naevosa</i>	Freckled Duck	V,P		12
Aves	<i>Tringa nebularia</i>	Common Greenshank	E1,P	E,C,J,K	2
Aves	<i>Tringa stagnatilis</i>	Marsh Sandpiper	P	C,J,K	4
Aves	<i>Tyto longimembris</i>	Eastern Grass Owl	V,P,3		3
Aves	<i>Tyto novaehollandiae</i>	Masked Owl	V,P,3		41
Mammalia	<i>Aepyprymnus rufescens</i>	Rufous Bettong	V,P		4
Mammalia	<i>Bettongia lesueur graii</i>	Boodie, Burrowing Bettong (mainland)	E4,P	X	1
Mammalia	<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V,P		59
Mammalia	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E1,P	E	105
Mammalia	<i>Chalinolobus nigrogriseus</i>	Hoary Wattled Bat	V,P		1
Mammalia	<i>Chalinolobus picatus</i>	Little Pied Bat	V,P		300
Mammalia	<i>Conilurus albipes</i>	White-footed Tree-rat	E4,P	X	2
Mammalia	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	31
Mammalia	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		P
Mammalia	<i>Isoodon auratus auratus</i>	Golden Bandicoot (mainland)	E4,P	V	1
Mammalia	<i>Lagorchestes leporides</i>	Eastern Hare-wallaby	E4,P	X	1
Mammalia	<i>Leporillus apicalis</i>	Lesser Stick-nest Rat	E4,P	X	1
Mammalia	<i>Leporillus conditor</i>	Greater Stick-nest Rat	E4,P	V	2
Mammalia	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		5
Mammalia	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V,P		25
Mammalia	<i>Notamacropus dorsalis</i>	Black-striped Wallaby	E1,P		28205
Mammalia	<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	V,P	V	416
Mammalia	<i>Onychogalea fraenata</i>	Bridled Nailtail Wallaby	E4,P	E	1
Mammalia	<i>Petaurus australis</i>	Yellow-bellied Glider	V,P	V	P
Mammalia	<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		210
Mammalia	<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E1,P	V	67
Mammalia	<i>Phascolarctos cinereus</i>	Koala	E1,P	E	3903
Mammalia	<i>Pseudomys australis</i>	Plains Mouse	V,P	V	74
Mammalia	<i>Pseudomys gouldii</i>	Gould's Mouse	E4,P	X	1
Mammalia	<i>Pseudomys oralis</i>	Hastings River Mouse	E1,P	E	1
Mammalia	<i>Pseudomys pilligaensis</i>	Pilliga Mouse	V,P	V	280
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	41
Mammalia	<i>Rattus villosissimus</i>	Long-haired Rat	V,P		1
Mammalia	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		1727
Mammalia	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		33
Mammalia	<i>Sminthopsis macroura</i>	Stripe-faced Dunnart	V,P		1
Mammalia	<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V,P		122
Reptilia	<i>Anomalopus mackayi</i>	Five-clawed Worm-skink	E1,P	V	2
Reptilia	<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V,P	V	2
Reptilia	<i>Delma vescolineata</i>	Hunter Valley Delma	E1,P	E	1
Reptilia	<i>Hemiaspis damelii</i>	Grey Snake	E1,P	E	2

Class	Scientific Name	Common Name	*NSW status	+Comm Status	Records
Reptilia	<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	V,P		61
Reptilia	<i>Uvidicolus sphyrurus</i>	Border Thick-tailed Gecko	V,P	V	2
Flora	<i>Acacia ausfeldii</i>	Ausfeld's Wattle	V		4
Flora	<i>Acacia pendula</i>	Acacia pendula population in the Hunter catchment	E2		P
Flora	<i>Androcalva procumbens</i>		V	V	567
Flora	<i>Bertya mollissima</i>		E1	E	2
Flora	<i>Bertya opposens</i>	Coolabah Bertya	V	V	653
Flora	<i>Cadellia pentastylis</i>	Ooline	V	V	143
Flora	<i>Cymbidium canaliculatum</i>	Cymbidium canaliculatum population in the Hunter Catchment	E2,P,2		1
Flora	<i>Cynanchum elegans</i>	White-flowered Wax Plant	E1	E	P
Flora	<i>Cyperus conicus</i>		E1		7
Flora	<i>Desmodiopsis campylocaulon</i>	Creeping Tick-trefoil	E1		1
Flora	<i>Dichanthium setosum</i>	Bluegrass	V	V	56
Flora	<i>Digitaria porrecta</i>	Finger Panic Grass	E1		110
Flora	<i>Diuris tricolor</i>	Pine Donkey Orchid	V,P,2		163
Flora	<i>Eriocaulon australasicum</i>	Austral Pipewort	E1	E	2
Flora	<i>Eucalyptus camaldulensis</i>	Eucalyptus camaldulensis population in the Hunter catchment	E2		P
Flora	<i>Eucalyptus cannonii</i>	Capertee Stringybark	V		3
Flora	<i>Homopholis belsonii</i>	Belson's Panic	E1	V	4
Flora	<i>Homoranthus darwinioides</i>	Fairy Bells	V	V	221
Flora	<i>Homoranthus prolixus</i>	Granite Homoranthus	V	V	1
Flora	<i>Indigofera efoliata</i>	Leafless Indigo	E1,3	E	3
Flora	<i>Lepidium aschersonii</i>	Spiny Peppercross	V	V	269
Flora	<i>Lepidium monolocoides</i>	Winged Peppercross	E1	E	536
Flora	<i>Lobelia claviflora</i>		E4A,3	CE	37
Flora	<i>Monotaxis macrophylla</i>	Large-leafed Monotaxis	E1		3
Flora	<i>Muehlenbeckia</i> sp. Mt Norman	Scrambling Lignum	V		1
Flora	<i>Myriophyllum implicatum</i>		E4A,2		26
Flora	<i>Polygala linariifolia</i>	Native Milkwort	E1		95
Flora	<i>Pomaderris queenslandica</i>	Scant Pomaderris	E1		100
Flora	<i>Pterostylis cobarensis</i>	Greenhood Orchid	V,P,2		548
Flora	<i>Swainsona murrayana</i>	Slender Darling Pea	V	V	9
Flora	<i>Swainsona sericea</i>	Silky Swainson-pea	V		2
Flora	<i>Thesium australe</i>	Austral Toadflax	V	V	4
Flora	<i>Tylophora linearis</i>		V	E	1905
Flora	<i>Zieria ingramii</i>	Keith's Zieria	E1	E	789
Flora	<i>Zieria odorifera</i> subsp. <i>copelandii</i>		E4A		P

*NSW Status: P=Protected, V=Vulnerable, E1=Endangered, E4=Extinct, E4A=Critically endangered, 2=Category 2 sensitive species, 3=Category 3 sensitive species.

+ Comm. Status: C=CAMBA, J=JAMBA, K=ROKAMBA, CE=Critically endangered, E=Endangered, V=Vulnerable, X=Extinct.

- Number of Records: K=Known to occur, P=Predicted to occur.

BioNET Atlas search – Threatened ecological communities predicted to occur within the Liverpool Plains, Pilliga, and Pilliga Outwash Subregions of the Brigalow Belt South Bioregion.

Community	*NSW Status	+Comm status	Records
Artesian Springs Ecological Community in the Great Artesian Basin	E4B		P
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant)		E	K
Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	E3		K
Cadellia pentastylis (Ooline) community in the Nandewar and Brigalow Belt South Bioregions	E3		K
Carbeen Open Forest Community in the Darling Riverine Plains and Brigalow Belt South Bioregions	E3		K
Carex Sedgeland of the New England Tableland, Nandewar, Brigalow Belt South and NSW North Coast Bioregions	E3		K
Central Hunter Valley eucalypt forest and woodland		CE	K
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions		E	K
Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions	E3		P
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	E3		K
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia		E	K
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	E3		K
Mount Kaputar high elevation and dry rainforest land snail and slug community in the Nandewar and Brigalow Belt South Bioregions	E3		K
Mount Kaputar land snail and slug community		E	K
Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions	E3		K
Native Vegetation on Cracking Clay Soils of the Liverpool Plains	E3		K
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland		CE	K
New England Peppermint (<i>Eucalyptus nova-anglica</i>) Grassy Woodlands		CE	K
Pilliga Outwash Ephemeral Wetlands in the Brigalow Belt South Bioregion	E3		K
Poplar Box Grassy Woodland on Alluvial Plains		E	K
Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar Bioregions	E3		K
Weeping Myall Woodlands		E	K
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and	E4B		K
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		CE	K

*NSW Status: E3= Endangered, E4B=Critically endangered

+Comm. Status: CE=Critically endangered, E=Endangered.

- Number of Records: P=Predicted to occur, K =Known to occur.

BioNET Atlas search – Key Threatening Processes predicted to occur within the Liverpool Plains, Pilliga, and Pilliga Outwash Subregions of the Brigalow Belt South Bioregion.

Threats	NSW Status	Comm Status
Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners, <i>Manorina melanocephala</i> (Latham, 1802)	KTP	KTP
Alteration of habitat following subsidence due to longwall mining	KTP	
Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands	KTP	
Anthropogenic Climate Change	KTP	KTP
Bushrock removal	KTP	
Clearing of native vegetation	KTP	KTP
Competition and grazing by the feral European Rabbit, <i>Oryctolagus cuniculus</i> (L.)	KTP	KTP
Competition and habitat degradation by Feral Goats, <i>Capra hircus</i> Linnaeus 1758	KTP	KTP
Competition from feral honey bees, <i>Apis mellifera</i> L.	KTP	
Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners	KTP	
Habitat degradation and loss by Feral Horses (brumbies, wild horses), <i>Equus caballus</i> Linnaeus 1758	KTP	
Herbivory and environmental degradation caused by feral deer	KTP	
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	KTP	
Importation of Red Imported Fire Ants <i>Solenopsis invicta</i> Buren 1972	KTP	KTP
Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations	KTP	KTP
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	KTP	KTP
Infection of native plants by <i>Phytophthora cinnamomi</i>	KTP	KTP
Introduction of the Large Earth Bumblebee <i>Bombus terrestris</i> (L.)	KTP	
Invasion and establishment of exotic vines and scramblers	KTP	
Invasion and establishment of Scotch Broom (<i>Cytisus scoparius</i>)	KTP	
Invasion and establishment of the Cane Toad (<i>Bufo marinus</i>)	KTP	KTP
Invasion of native plant communities by African Olive <i>Olea europaea subsp. cuspidata</i> (Wall. ex G. Don) Cif.	KTP	
Invasion of native plant communities by <i>Chrysanthemoides monilifera</i>	KTP	
Invasion of native plant communities by exotic perennial grasses	KTP	
Invasion of the Yellow Crazy Ant, <i>Anoplolepis gracilipes</i> (Fr. Smith) into NSW	KTP	
Invasion, establishment and spread of Lantana (<i>Lantana camara</i> L. sens. Lat)	KTP	
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	KTP	KTP
Loss of Hollow-bearing Trees	KTP	
Loss or degradation (or both) of sites used for hill-topping by butterflies	KTP	
Predation and hybridisation by Feral Dogs, <i>Canis lupus familiaris</i>	KTP	
Predation by <i>Gambusia holbrooki</i> Girard, 1859 (Plague Minnow or Mosquito Fish)	KTP	
Predation by the European Red Fox <i>Vulpes Vulpes</i> (Linnaeus, 1758)	KTP	KTP

Threats	NSW Status	Comm Status
Predation by the Feral Cat <i>Felis catus</i> (Linnaeus, 1758)	KTP	KTP
Predation, habitat degradation, competition and disease transmission by Feral Pigs, <i>Sus scrofa</i> Linnaeus 1758	KTP	KTP
Removal of dead wood and dead trees	KTP	
Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners, <i>Manorina melanocephala</i> (Latham, 1802)	KTP	KTP

Biodiversity Values Map and Threshold Tool



Department of Planning and Environment

Biodiversity Values Map and Threshold Report

This report is generated using the Biodiversity Values Map and Threshold (BMAT) tool. The BMAT tool is used by proponents to supply evidence to your local council to determine whether or not a Biodiversity Development Assessment Report (BDAR) is required under [the Biodiversity Conservation Regulation 2017 \(Cl. 7.2 & 7.3\)](#).

The report provides results for the proposed development footprint area identified by the user and displayed within the blue boundary on the map.

There are two pathways for determining whether a BDAR is required for the proposed development:

1. Is there Biodiversity Values Mapping?
2. Is the 'clearing of native vegetation area threshold' exceeded?

Biodiversity Values Map and Threshold Report

Date of Report Generation		02/06/2026 5:04 AM
1. Biodiversity Values (BV) Map - Results Summary (Biodiversity Conservation Regulation Section 7.3)		
1.1	Does the development Footprint intersect with BV mapping?	no
1.2	Was <u>ALL</u> BV Mapping within the development footprint added in the last 90 days? (dark purple mapping only, no light purple mapping present)	no
1.3	Date of expiry of dark purple 90 day mapping	N/A
1.4	Is the Biodiversity Values Map threshold exceeded?	no
2. Area Clearing Threshold - Results Summary (Biodiversity Conservation Regulation Section 7.2)		
2.1	Size of the development or clearing footprint	11,465.1 sqm
2.2	Native Vegetation Area Clearing Estimate (NVACE) (within development/clearing footprint)	8,533.1 sqm
2.3	Method for determining Minimum Lot Size	LEP
2.4	Minimum Lot Size (10,000sqm = 1ha)	1,000,000 sqm
2.5	Area Clearing Threshold (10,000sqm = 1ha)	10,000 sqm
2.6	Does the estimate exceed the Area Clearing Threshold? (NVACE results are an estimate and can be reviewed using the Guidance)	no
REPORT RESULT: Is the Biodiversity Offset Scheme (BOS) Threshold exceeded for the proposed development footprint area? (Your local council will determine if a BDAR is required)		no

Page 1 of 4



Department of Planning and Environment

What do I do with this report?

- If the result above indicates the BOS Threshold has been exceeded, your local council **may require** a Biodiversity Development Assessment Report with your development application. Seek further advice from Council. An accredited assessor can apply the Biodiversity Assessment Method and prepare a BDAR for you. For a list of accredited assessors go to: <https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor>.
- If the result above indicates the BOS Threshold has not been exceeded, you may not require a Biodiversity Development Assessment Report. This BMAT report can be provided to Council to support your development application. Council can advise how the area clearing threshold results should be considered. Council will review these results and make a determination if a BDAR is required. Council may ask you to review the area clearing threshold results. You may also be required to assess whether the development is "likely to significantly affect threatened species" as determined under the test in Section 7.3 of the *Biodiversity Conservation Act 2016*.
- If a BDAR is not required by Council, you may still require a permit to clear vegetation from your local council.
- If **all** Biodiversity Values mapping within your development footprint was less than 90 days old, i.e. areas are displayed as dark purple on the BV map, a BDAR may not be required if your Development Application is submitted within that 90 day period. Any BV mapping less than 90 days old on this report will expire on the date provided in Line item 1.3 above.

For more detailed advice about actions required, refer to the **Interpreting the evaluation report** section of the [Biodiversity Values Map Threshold Tool User Guide](#).

Review Options:

- If you believe the Biodiversity Values mapping is incorrect please refer to our [BV Map Review webpage](#) for further information.
- If you or Council disagree with the area clearing threshold estimate results from the NVACE in Line Item 2.6 above (i.e. area of Native Vegetation within the Development footprint proposed to be cleared), review the results using the [Guide for reviewing area clearing threshold results from the BMAT Tool](#).

Acknowledgement

I, as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature: _____

(Typing your name in the signature field will be considered as your signature for the purposes of this form)

Date: _____

02/06/2026 05:04 AM



Department of Planning and Environment

Biodiversity Values Map and Threshold Tool

The Biodiversity Values (BV) Map and Threshold Tool identifies land with high biodiversity value, particularly sensitive to impacts from development and clearing.

The BV map forms part of the Biodiversity Offsets Scheme threshold, which is one of the factors for determining whether the Scheme applies to a clearing or development proposal. You have used the Threshold Tool in the map viewer to generate this BV Threshold Report for your nominated area. This report calculates results for your proposed development footprint and indicates whether Council may require you to engage an accredited assessor to prepare a Biodiversity Development Assessment Report (BDAR) for your development.

This report may be used as evidence for development applications submitted to councils. You may also use this report when considering native vegetation clearing under the State Environmental Planning Policy (Biodiversity and Conservation) 2021 - Chapter 2 vegetation in non-rural areas.

What's new? For more information about the latest updates to the Biodiversity Values Map and Threshold Tool go to the updates section on the [Biodiversity Values Map webpage](#).

Map Review: Landholders can request a review of the BV Map where they consider there is an error in the mapping on their property. For more information about the map review process and an application form for a review go to the [Biodiversity Values Map Review webpage](#).

If you need help using this map tool see our [Biodiversity Values Map and Threshold Tool User Guide](#) or contact the Map Review Team at map.review@environment.nsw.gov.au or on 1800 001 490.

Biodiversity Values Map



244.7 0 122.33 244.7 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

Legend

-  Biodiversity Values that have been mapped for more than 90 days
-  Biodiversity Values added within last 90 days
-  Native Vegetation Area Clearing Estimate (NVACE)
-  Development area selected by proponent

02/06/2026 05:04 AM

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Imagery © Airbus DS/Spot Image 2016

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The results provided in this tool are generated using the best available mapping and knowledge of species habitat requirements.

This map is valid as at the date the report was generated. Checking the [Biodiversity Values Map viewer](#) for mapping updates is recommended.

APPENDIX B – FIELD SURVEY RESULTS

REPRESENTATIVE PHOTOS OF PCTs

PCT	Photographs
411	

416



FLORA SPECIES LIST

In total, 57 plant species were detected during the field survey. Of these, 46 (80.7%) are native and 11 (19.3%) are introduced. Three of the introduced species – African Lovegrass (*Eragrostis curvula*) African Boxthorn (*Lycium ferocissimum*) and Common Prickly Pear (*Opuntia stricta*) – are listed as high-threat exotic species (HTE) under the BAM. African Boxthorn and the Common Prickly Pear are also considered Weeds of National Significance (WoNS) and a Priority Weeds (PW) for the North West Local Land Services (LLS) region and/or NSW. No threatened flora species were detected.

¹ Growth form	Scientific name	Common Name	² Status	³ HTE	⁴ WoNS	⁵ PW
SG	<i>Abutilon oxycarpum</i>	Straggly Lantern-bush	N	No	No	No
SG	<i>Acacia deanei</i> subsp. <i>deanei</i>	Deane's Wattle	N	No	No	No
SG	<i>Acacia havilandiorum</i>	Haviland's Wattle	N	No	No	No
SG	<i>Acacia mariae</i>		N	No	No	No
TG	<i>Allocasuarina luehmannii</i>	Bulloak	N	No	No	No
SG	<i>Apophyllum anomalum</i>	Warrior Bush	N	No	No	No
GG	<i>Aristida ramosa</i>	Purple Wiregrass	N	No	No	No
FG	<i>Brachyscome</i> sp.		N	No	No	No
FG	<i>Calandrinia</i> sp	Small Purslane	N	No	No	No
TG	<i>Callitris glaucophylla</i>	White Cypress Pine	N	No	No	No
FG	<i>Calotis cuneifolia</i>	Purple Burr-Daisy	N	No	No	No
SG	<i>Capparis lasiantha</i>	Nepine	N	No	No	No
FG	<i>Carex inversa</i>	Knob Sedge	N	No	No	No
EG	<i>Cheilanthes sieberi</i>	Rock Fern	N	No	No	No
FG	<i>Chrysocephalum apiculatum</i>	Common Everlasting	N	No	No	No
FG	<i>Cirsium vulgare</i>	Spear Thistle	I	No	No	No
FG	<i>Cyperus gunnii</i> subsp. <i>gunnii</i>		N	No	No	No
SG	<i>Daviesia genistifolia</i>	Broom Bitter Pea	N	No	No	No
FG	<i>Echium plantagineum</i>	Patterson's Curse	I	No	No	No
FG	<i>Einadia nutans</i>	Climbing Saltbush	N	No	No	No
GG	<i>Eleocharis pallens</i>	Pale Spike Sedge	N	No	No	No
GG	<i>Eleocharis plana</i>	Flat Spike-sedge	N	No	No	No
GG	<i>Eleocharis pusilla</i>		N	No	No	No
GG	<i>Enteropogon acicularis</i>	Curly Windmill Grass	N	No	No	No
GG	<i>Eragrostis cilianensis</i>	Stinkgrass	I	No	No	No
GG	<i>Eragrostis curvula</i>	African Lovegrass	I	Yes	No	No
SG	<i>Eremophila deserti</i>	Turkeybush	N	No	No	No
TG	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	N	No	No	No
TG	<i>Eucalyptus pilligaensis</i>	Narrow-leaved Grey Box	N	No	No	No
GG	<i>Fimbristylis dichotoma</i>	Common Fringe-sedge	N	No	No	No
TG	<i>Geijera parviflora</i>	Wilga	N	No	No	No
FG	<i>Geranium solanderi</i>	Native Geranium	N	No	No	No
FG	<i>Glandularia aristigera</i>	Mayne's Pest	I	No	No	No
FG	<i>Hypochaeris radicata</i>	Catsear	I	No	No	No

¹ Growth form	Scientific name	Common Name	² Status	³ HTE	⁴ WoNS	⁵ PW
GG	<i>Juncus sp.</i>	Rush	N	No	No	No
FG	<i>Lactuca saligna</i>	Willow-leaved Lettuce	I	No	No	No
GG	<i>Lomandra filiformis</i>	Wattle Matt-rush	N	No	No	No
SG	<i>Lycium ferocissimum</i>	African Boxthorn	I	Yes	Yes	Yes
SG	<i>Maireana microphylla</i>	Small-leaf Bluebush	N	No	No	No
EG	<i>Marsilea drummondii</i>	Common Nardoo	N	No	No	No
FG	<i>Medicago polymorpha</i>	Burr Medic	I	No	No	No
SG	<i>Melaleuca densispicata</i>		N	No	No	No
SG	<i>Myoporum montanum</i>	Western Boobialla	N	No	No	No
FG	<i>Nymphoides crenata</i>	Wavy Marshwort	N	No	No	No
OG	<i>Opuntia stricta</i>	Common Prickly Pear	I	Yes	Yes	Yes
FG	<i>Phyllanthus virgatus</i>	Wiry Spurge	N	No	No	No
FG	<i>Polygonum aviculare</i>	Wireweed	I	No	No	No
FG	<i>Portulaca oleracea</i>	Pigweed	N	No	No	No
SG	<i>Rhagodia spinescens</i>	Thorny Saltbush	N	No	No	No
SG	<i>Sclerolaena birchii</i>	Galvanized Burr	N	No	No	No
SG	<i>Sclerolaena muricata</i>	Black Rolypoly	N	No	No	No
SG	<i>Sclerolaena tetraclaspis</i>	Brigalow Burr	N	No	No	No
SG	<i>Solanum ferocissimum</i>	Spiny Potato-bush	N	No	No	No
FG	<i>Sonchus oleraceus</i>	Common Sowthistle	N	No	No	No
GG	<i>Sporobolus caroli</i>	Fairy Grass	N	No	No	No
GG	<i>Sporobolus creber</i>	Slender Rat's Tail Grass	N	No	No	No
FG	<i>Tetragonia tetragonioides</i>	New Zealand Spinach	N	No	No	No

¹Growth form: FG = Forb, GG = Grass and Grass-like, SG = Shrub, TG = Tree, EG = Fern, OG = Other. ²Status: N = Native, I = Introduced. ³High-threat exotic species (Yes/No). ⁴Weed of National Significance (Yes/No). ⁵Priority weed for the region (Yes/No).

FAUNA SPECIES LIST

In total, five fauna species (four birds and one mammal), were detected during the field survey. Of the detected species, four are native (80%) and one is introduced (20%). No threatened fauna species were observed.

It should be noted, due to the presence of the active power station neighbouring the subject site, the surrounding environment was loud and busy with lots of human activity, making detection of fauna species difficult.

Class	Scientific Name	Common Name	Status*
Aves	<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	N
Aves	<i>Malurus cyaneus</i>	Superb Fairy-wren	N
Aves	<i>Struthidea cinerea</i>	Apostlebird	N
Aves	<i>Threskiornis moluccus</i>	Australian White Ibis	N
Mammalia	<i>Sus scrofa</i>	Pig	I

*Status: N = Native, I=Introduced

APPENDIX C – BC & EPBC ACT HABITAT ASSESSMENT FOR THREATENED SPECIES AND COMMUNITIES PREDICTED TO OCCUR

List generated by conducting a vegetation associations report for the Liverpool Plains, Pilliga, and Pilliga Outwash Subregions of the Brigalow Belt South Bioregion, and filtering the results by the PCTs present within the subject site. To determine whether any threatened species were known to occur near the subject site, BioNet Atlas records of threatened species within these subregions were downloaded and the records clipped to within 10 km of the subject site in QGIS. Likelihood of occurrence description is sourced from <https://www.environment.nsw.gov.au/threatenedSpeciesApp>

Likelihood of occurrence table for BC and EPBC Act listed threatened species.

Species name	Common Name	NSW Status*	Comm. Status+	Records within 10 km?	Likelihood of Occurrence	Test of Significance Required (Yes / No)
<i>Crinia sloanei</i>	Sloane's Froglet	E1,P	E	0	Sloane's Froglet has been recorded from widely scattered sites in the floodplains of the Murray-Darling Basin, with the majority of records in the Darling Riverine Plains, NSW South Western Slopes and Riverina bioregions in New South Wales. It has not been recorded recently in the northern part of its range and has only been recorded infrequently in the southern part of its range in NSW. It is typically associated with periodically inundated areas in grassland, woodland and disturbed habitats. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Alectura lathamii</i>	Australian Brush-turkey population in the Nandewar and Brigalow Belt South Bioregions	E2,P		0	A population of the Australian Brush-turkey is known from the Nandewar and Brigalow Belt South Bioregions. Recent records for the species show the population to range from north east of Wialda, to Narrabri, approximately 115 km to the south-west, and occur within the local government areas of Yallaroi, Bingara, Narrabri, Barraba and Moree Plains. The majority of records are from Mount Kaputar National Park and nearby Deriah State Forest, with a smaller cluster of records from Wialda State Forest. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Anseranas semipalmata</i>	Magpie Goose	V,P		51	The Magpie Goose is still relatively common in the Australian northern tropics but had disappeared from south-east Australia by 1920 due to	No

					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. Absent – Suitable wetland habitat does not occur within the subject site. The 51 records within the 10 km search area are all located near Narrabri Lake, approximately 8 km from the subject site.	
<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A,P,2	CE	0	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. Once recorded between Adelaide and the central coast of Queensland, its range has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests. The Regent Honeyeater is a flagship threatened woodland bird whose conservation will benefit a large suite of other threatened and declining woodland fauna. The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Antigone rubicunda</i>	Brolga	V,P		0	The Brolga was formerly found across Australia, except for the south-east corner, Tasmania and the south-western third of the country. It is 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.	No

					Absent – Suitable wetland or grassland habitat does not occur within the subject site.	
<i>Aphelocephala leucopsis</i>	Southern Whiteface	V,P	V	0	Prefers the drier habitats of southern Australia. Commonly found in dry open forests and woodland, mallee, mulga and saltbush. Prefers sites with fallen timber or dead trees and stumps. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Apus pacificus</i>	Fork-tailed Swift	P	C,J,K	2	In NSW, the Fork-tailed Swift is recorded in all regions. Many records occur east of the Great Divide; however, a few populations have been found west of the Great Divide. These are widespread but scattered further west of the line joining Bourke and Dareton. Sightings have been recorded at Milparinka, the Bulloo River and Thurloos Downs (Higgins 1999). The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. Moderate – Subject site is within the species known geographic distribution and two records occur within the search area. However, no associated PCTs are present.	Yes
<i>Ardeotis australis</i>	Australian Bustard	E1,P		0	The Australian Bustard mainly occurs in inland Australia and is now scarce or absent from southern and south-eastern Australia. In NSW, they are mainly found in the north-west corner and less often recorded in the lower western and central west plains regions. Occasional vagrants are still seen as far east as the western slopes and Riverine plain. Breeding now only occurs in the north-west region of NSW. Mainly inhabits tussock and hummock grasslands, though prefers tussock grasses to hummock grasses; also occurs in low shrublands and low open grassy woodlands; occasionally seen in pastoral and cropping country, golf courses and near dams. Breeds on bare ground on low sandy ridges or stony rises in ecotones between grassland and protective shrubland cover; roosts on ground among shrubs and long grasses or under trees. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P		0	Dusky woodswallows 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. Primarily inhabit dry, open	Yes

					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. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1,P	E	0	Australasian Bitterns are widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (<i>Typha</i> spp.) and spikerushes (<i>Eleocharis</i> spp.). 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. Absent – Suitable wetland habitat does not occur within the subject site.	No
<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		0	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 ground layer 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. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	P	C,J,K	3	The Sharp-tailed Sandpiper spends the non-breeding season in Australia with small numbers occurring regularly in New Zealand. Most of the population migrates to Australia, mostly to the south-east and are widespread in both inland and coastal locations and in both freshwater and saline habitats. Many inland records are of birds on passage. In Australasia, the Sharp-tailed Sandpiper prefers muddy	No

					edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, salt pans and hypersaline salt lakes inland. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgeland and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and swamps and creeks lined with mangroves. They tend to occupy coastal mudflats mainly after ephemeral terrestrial wetlands have dried out, moving back during the wet season. They may be attracted to mats of algae and water weed either floating or washed up around terrestrial wetlands. Absent – Suitable wetland habitat does not occur within the subject site. The three records within the 10 km search area are all located at Narrabri Lake, approximately 8 km from the subject site.	
<i>Calidris ruficollis</i>	Red-necked Stint	P	C,J,K	0	In Australasia, the Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores. They also occur in saltworks and sewage farms; saltmarsh; ephemeral or permanent shallow wetlands near the coast or inland, including lagoons, lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in salt flats. They sometimes use flooded paddocks or damp grasslands. They have occasionally been recorded on dry gibber plains, with little or no perennial vegetation. Absent – Suitable wetland habitat does not occur within the subject site.	No
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E1,P,3	E	0	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 occurs regularly in the Australian Capital Territory. 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 spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No

<i>Calyptorhynchus lathamii lathamii</i>	South-eastern Glossy Black-Cockatoo	V,P,2	V	6	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. Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak (<i>Allocasuarina littoralis</i>) and Forest Sheoak (<i>A. torulosa</i>) are important foods. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and six records occur within 10 km.	Yes
<i>Certhionyx variegatus</i>	Pied Honeyeater	V,P		0	Pied Honeyeater is 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 (<i>Acacia aneura</i>), mallee, spinifex and eucalypt woodlands, usually when shrubs are flowering; feeds on nectar, predominantly from various species of emu-bushes (<i>Eremophila</i> spp.); also from mistletoes and various other shrubs (e.g. <i>Grevillea</i> spp.); also eats saltbush fruit, berries, seed, flowers and insects. Highly nomadic, following the erratic flowering of shrubs; can be locally common at times. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Circus assimilis</i>	Spotted Harrier	V,P		2	The Spotted Harrier occurs throughout the Australian mainland, except in densely 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. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and two records occur within 10 km.	Yes
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V,P	V	0	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 <i>Climacteris picumnus victoriae</i> runs approximately through Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell and along this line the subspecies	Yes

					intergrades with the arid zone subspecies of Brown Treecreeper <i>Climacteris picumnus picumnus</i> 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. The population density of this subspecies has been greatly reduced over much of its range, with major declines recorded in central NSW and the northern and southern tablelands. Declines have occurred in remnant vegetation fragments smaller than 300 hectares, that have been isolated or fragmented for more than 50 years. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		5	The Varied Sittella is sedentary and inhabits most of mainland Australia except the treeless deserts and open grasslands. Distribution in NSW is nearly continuous from the coast to the far west. The Varied Sittella's population size in NSW is uncertain but is believed to have undergone a moderate reduction over the past several decades. Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and five records occur within 10 km.	Yes
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1,P		4	In Australia, Black-necked Storks are widespread in coastal and subcoastal northern and eastern Australia, as far south as central NSW (although vagrants may occur further south or inland, well away from breeding areas). In NSW, the species becomes increasingly uncommon south of the Clarence Valley, and rarely occurs south of Sydney. Since 1995, breeding has been recorded as far south as Buladelah. Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the Black-necked Stork. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries. Black-necked Storks build large nests high in tall trees close to water. Trees usually provide clear observation of the surroundings and are at low elevation (reflecting the floodplain habitat). Absent – Suitable wetland habitat does not occur within the subject site. The four records within the 10 km search area are all	No

					located along the Namoi River, approximately 7.8 km from the subject site.	
<i>Epthianura albifrons</i>	White-fronted Chat	V,P		0	The White-fronted Chat is found across the southern half of Australia, from southernmost Queensland to southern Tasmania, and across to Western Australia as far north as Carnarvon. Found mostly in temperate to arid climates and very rarely sub-tropical areas, it occupies foothills and lowlands up to 1000 m above sea level. In NSW, it occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is found predominantly in saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Falco hypoleucos</i>	Grey Falcon	V,P,2	V	0	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. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Falco subniger</i>	Black Falcon	V,P		5	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. Some reports of 'Black Falcons' on the tablelands and coast of New South Wales are likely to be referable to the Brown Falcon. In New South Wales there is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres. The Black Falcon occurs as solitary individuals, in pairs, or in family groups of parents and offspring. Low – Subject site is within the species known geographic distribution and five records occur within 10 km. However, no associated PCTs are present.	Yes
<i>Gallinago hardwickii</i>	Latham's Snipe	V,P	V,J,K	29	Latham's Snipe is a non-breeding visitor to south-eastern Australia and is a passage migrant through northern Australia (i.e. it travels through northern Australia to reach non-breeding areas located further south).	No

					The species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern South Australia (including the Adelaide plains and Mount Lofty Ranges, and the Eyre Peninsula). The range extends inland over the eastern tablelands in south-eastern Queensland (and occasionally from Rockhampton in the north), and to west of the Great Dividing Range in New South Wales. The species is widespread in Tasmania and is found in all regions of Victoria except for the north-west. Most birds spend the non-breeding period at sites located south of the Richmond River in New South Wales. 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. Absent – Suitable wetland habitat does not occur within the subject site. The 29 records within the 10 km search area are all located at Narrabri Lake, approximately 8 km from the subject site.	
<i>Gelochelidon nilotica</i>	Gull-billed Tern	P	C	0	The Gull-billed Tern occurs on all continents except Antarctica. Gull-billed Terns are found in freshwater swamps, brackish and salt lakes, beaches and estuarine mudflats, floodwaters, sewage farms, irrigated croplands and grasslands. They are only rarely found over the ocean. Absent – Suitable wetland or irrigated grassland habitat does not occur within the subject site.	No
<i>Grantiella picta</i>	Painted Honeyeater	V,P	V	0	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/ Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) and Box-Gum Woodlands and Box-Ironbark Forests. Moderate – Subject site is within the species predicted geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P		2	The White-bellied Sea-eagle is distributed around the Australian coastline, including Tasmania, and well inland along rivers and wetlands of the Murray Darling Basin. In New South Wales it is widespread along the east coast, and along all major inland rivers and waterways. Habitats are characterised by the presence of large areas	No

					of open water including larger rivers, swamps, lakes, and the sea. Occurs at sites near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest). Breeding habitat consists of mature tall open forest, open forest, tall woodland, and swamp sclerophyll forest close to foraging habitat. Nest trees are typically large emergent eucalypts and often have emergent dead branches or large dead trees nearby which are used as 'guard roosts'. Nests are large structures built from sticks and lined with leaves or grass. Feed mainly on fish and freshwater turtles, but also waterbirds, reptiles, mammals and carrion. Hunts its prey from a perch or whilst in flight (by circling slowly, or by sailing along 10–20 m above the shore). Prey is usually carried to a feeding platform or (if small) consumed in flight, but some items are eaten on the ground. May be solitary, or live in pairs or small family groups consisting of a pair of adults and dependent young. Typically lays two eggs between June and September with young birds remaining in the nest for 65-70 days. Low – Although the subject site is within the species known geographic distribution an associated PCT (411) is present, and two records occur within 10 km, the subject site does not occur near large areas of open water (i.e., larger rivers, swamps, lakes, and the sea). Furthermore, both records within the search area are located > 9.1 km from the subject site.	
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	V,P,3		0	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 breeding habitat. Also hunts over grasslands and sparsely timbered woodlands. Low – Subject site is within the species predicted geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		5	The Little Eagle 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 open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used.	Yes

					High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and five records occur within 10 km.	
<i>Hirundapus caudacutus</i>	White-throated Needletail	V,P	V,C,J,K	2	The White-throated Needletail is widespread in eastern and south-eastern. In eastern Australia, it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. Because they are aerial, it has been stated that conventional habitat descriptions are inapplicable, but there are, nevertheless, certain preferences exhibited by the species. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and two records occur within 10 km.	Yes
<i>Hydroprogne caspia</i>	Caspian Tern	P	J	0	Within Australia, the Caspian Tern has a widespread occurrence and can be found in both coastal and inland habitat (Higgins & Davies 1996). The following table presents the distribution and breeding sites of the Caspian Tern in Australia. Widespread east of the Great Divide, mainly in coastal regions, and also in the Riverina and Lower and Upper Western Regions, with occasional records elsewhere (Higgins & Davis 1996). The Caspian Tern is mostly found in sheltered coastal embayments (harbours, lagoons, inlets, bays, estuaries and river deltas) and those with sandy or muddy margins are preferred. They also occur on near-coastal or inland terrestrial wetlands that are either fresh or saline, especially lakes (including ephemeral lakes), waterholes, reservoirs, rivers and creeks. They also use artificial wetlands, including reservoirs, sewage ponds and saltworks. In offshore areas the species prefers sheltered situations, particularly near islands, and is rarely seen beyond reefs. Absent – Suitable wetland habitat does not occur within the subject site.	No
<i>Ixobrychus flavicollis</i>	Black Bittern	V,P		0	The Black Bittern has a wide distribution, from southern NSW north to Cape York and along the north coast to the Kimberley region. The species also occurs in the south-west of Western Australia. In NSW, records of the species are scattered along the east coast, with individuals rarely being recorded south of Sydney or inland. Inhabits both terrestrial and estuarine wetlands, generally in areas of	No

					permanent water and dense vegetation. Where permanent water is present, the species may occur in flooded grassland, forest, woodland, rainforest and mangroves. Absent – Suitable wetland habitat does not occur within the subject site.	
<i>Lathamus discolor</i>	Swift Parrot	E1,P	CE	0	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 species such as Swamp Mahogany <i>Eucalyptus robusta</i>, Spotted Gum <i>Corymbia maculata</i>, Red Bloodwood <i>C. gummifera</i>, Forest Red Gum <i>E. tereticornis</i>, Mugga Ironbark <i>E. sideroxylon</i>, and White Box <i>E. albens</i>. Moderate – Subject site is within the species predicted geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Leipoa ocellata</i>	Malleefowl	E1,P	V	0	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 still known to have at least one active mound in 2017. Further east, a population continues to persist in the Goonoo forest near Dubbo, though the size of this population is unknown. 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	No

					understorey, or in other woodlands such dominated by Mulga or native Cypress Pine species.	
					Low – Subject site is within the species predicted geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	
<i>Limosa limosa</i>	Black-tailed Godwit	V,P	E,C,J,K	0	The Black-tailed Godwit is a migratory wading bird that breeds in Mongolia and Eastern Siberia and flies to Australia for the southern summer, arriving in August and leaving in March. In NSW, it is most frequently recorded at Kooragang Island (Hunter River estuary), with occasional records elsewhere along the coast, and inland. Records in western NSW indicate that a regular inland passage is used by the species, as it may occur around any of the large lakes in the western areas during summer, when the muddy shores are exposed. The species has been recorded within the Murray-Darling Basin, on the western slopes of the Northern Tablelands and in the far north-western corner of the state. Primarily a coastal species. Absent – Suitable wetland habitat does not occur within the subject site.	No
<i>Lophochroa leadbeateri</i>	Pink Cockatoo	V,P,2	E	0	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. Moderate – Subject site is within the species predicted geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		1	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	Yes

					habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.	
					High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	
<i>Melanodryas cucullata</i> <i>cucullata</i>	South-eastern Hooded Robin	E1,P	E	0	The Hooded Robin is widespread, found across Australia, except for the driest deserts and the wetter coastal areas - northern and eastern coastal Queensland and Tasmania. However, it 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 (subspecies <i>cucullata</i>) is found from Brisbane to Adelaide and throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies <i>picata</i>. Two other subspecies occur outside NSW. 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. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Melithreptus gularis</i> <i>gularis</i>	Black-chinned Honeyeater (eastern subspecies)	V,P		0	The Black-chinned Honeyeater has two subspecies, with only the nominate (<i>gularis</i>) occurring in NSW. The eastern subspecies extends south from central Queensland, through NSW, Victoria into south eastern South Australia, though it is very rare in the last state. In NSW it is widespread, with records from the tablelands and western slopes of the Great Dividing Range to the north-west and central-west plains and the Riverina. Occupies mostly upper levels of drier open forests or woodlands dominated by box and ironbark eucalypts, river sheoaks (nesting habitat) 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. Nectar is taken from flowers, and honeydew is gleaned from foliage. Breeds solitarily or co-operatively, with up to five or six adults, from June to December. The nest is placed high in the crown of a tree, in the uppermost lateral branches, hidden by foliage. It is a compact, suspended, cup-shaped nest.	No

					Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	
<i>Neophema chrysostoma</i>	Blue-winged Parrot	V,P	V	0	Blue-winged Parrots occur in range of habitats from coastal to semi-arid and favour grasslands and grassy woodlands. Mainly found in Tasmania and Victoria but some populations can be found in Western NSW and Eastern SA. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		1	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. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Ninox connivens</i>	Barking Owl	V,P,3		3	The Barking Owl is found throughout continental Australia except for the central arid regions. Although common in parts of northern Australia, the species has declined greatly in southern Australia and now occurs in a wide but sparse distribution in NSW. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests. Many populations crashed as woodland on fertile soils was cleared over the past century, leaving linear riparian strips of remnant trees as the last inhabitable areas. Surveys in 2001 demonstrated that the Pilliga Forest supported the largest population in southern Australia. The owls sometimes extend their home range into urban areas, hunting birds in garden trees and insects attracted to streetlights. Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. Sometimes able to successfully breed along timbered watercourses in heavily cleared habitats (e.g. western NSW) due to the higher density of prey on these fertile riparian soils. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and three records occur within 10 km.	Yes
<i>Ninox strenua</i>	Powerful Owl	V,P,3		0	The Powerful Owl is endemic to eastern and south-eastern Australia, mainly on the coastal side of the Great Dividing Range from Mackay to south-western Victoria. In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered	No

					records on the western slopes and plains suggesting occupancy prior to land clearing. Now at low densities throughout most of its eastern range, rare along the Murray River and former inland populations may never recover. The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine <i>Syncarpia glomulifera</i>, Black She-oak <i>Allocasuarina littoralis</i>, Blackwood <i>Acacia melanoxylon</i>, Rough-barked Apple <i>Angophora floribunda</i>, Cherry Ballart <i>Exocarpus cupressiformis</i> and a number of eucalypt species. Powerful Owls nest in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old. While the female and young are in the nest hollow the male Powerful Owl roosts nearby (10-200 m) guarding them, often choosing a dense "grove" of trees that provide concealment from other birds that harass him. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	
<i>Numenius minutus</i>	Little Curlew	P	C,J,K	0	The Little Curlew is widespread in the north of Australia and scattered elsewhere. It is an irregular visitor to New Zealand and Tasmania. It breeds in Siberia and is seen on passage through Mongolia, China, Japan, Indonesia and New Guinea. Little Curlews may gather in large flocks on coastal and inland grasslands and black soil plains in northern Australia, near swamps and flooded areas. They also feed on playing fields, paddocks and urban lawns. Absent – Suitable wetland or grassland habitat near swamps does not occur within the subject site.	No
<i>Oxyura australis</i>	Blue-billed Duck	V,P		2	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. Absent – Suitable wetland habitat does not occur within the subject site. The two records within the 10 km search area is	No

					located at Narrabri Lake, approximately 8 km from the subject site.	
<i>Pachycephala inornata</i>	Gilbert's Whistler	V,P		0	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 species was probably once distributed almost continuously across the woodlands and mallee of southern NSW, but this range has been greatly reduced. 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' (<i>Exocarpus</i> species) appear to be an important habitat component in Belah and Red Gum communities, though in the latter case other dense shrubs, such as Lignum and wattles, are also utilised. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Parvipsitta pusilla</i>	Little Lorikeet	V,P		3	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, although some areas retain residents for much of the year and 'locally nomadic' movements are suspected of breeding pairs. Forages primarily in the canopy of open <i>Eucalyptus</i> forest and woodland, yet also finds food in <i>Angophora</i>, <i>Melaleuca</i> and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Low – Subject site is within the species known geographic distribution and three records occur within 10 km. However, no associated PCTs are present.	Yes
<i>Petroica boodang</i>	Scarlet Robin	V,P		0	The Scarlet Robin is found from south east Queensland to south east South Australia and also in Tasmania and south west Western Australia. In NSW, it occurs from the coast to the inland slopes. After breeding, some Scarlet Robins disperse to the lower valleys and plains of the tablelands and slopes. Some birds may appear as far west as	No

					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. 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. The Scarlet Robin is a quiet and unobtrusive species which is often quite tame and easily approached. Birds forage from low perches, fenceposts or on the ground, from where they pounce on small insects and other invertebrates which are taken from the ground, or off tree trunks and logs; they sometimes forage in the shrub or canopy layer. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	
<i>Petroica phoenicea</i>	Flame Robin	V,P		0	The Flame Robin is endemic to south eastern Australia, and ranges from near the Queensland border to south east 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. Prefers clearings or areas with open understoreys. 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), in dry forests, open woodlands and in pastures and native grasslands, with or without scattered trees. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Phaethon rubricauda</i>	Red-tailed Tropicbird	V,P	C,J	0	Ranges throughout tropical and subtropical zones of the Indian and West Pacific Oceans, breeding on oceanic islands. Lord Howe Island	No

					is said to have the greatest breeding concentration in the world. Breeds in coastal cliffs and under bushes in tropical Australia. Nests on cliffs of the northern hills and southern mountains on the main island at Lord Howe Island. Vagrant birds occur in coastal NSW waters, and occasionally even inland, particularly after storm events. Absent – Suitable habitat does not occur within the subject site.	
<i>Polytelis swainsonii</i>	Superb Parrot	V,P,3	V	1	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. The other main breeding sites are in the Riverina along the corridors of the Murray, Edward and Murrumbidgee Rivers where birds are present all year round. This species inhabits Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina the birds nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum Forest or Woodland. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box. May forage up to 10 km from nesting sites, and feed in trees and understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plants. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V,P		23	The eastern subspecies (<i>temporalis</i>) 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. Woodlands on fertile soils in coastal regions. Lives in family groups that consist of a breeding pair and young from previous breeding seasons. A group may consist of up to fifteen individuals. Feed on invertebrates and nests in several conspicuous, dome-shaped stick structures that are about the size of a football. A nest is used as a dormitory for	Yes

					roosting each night. Nests are maintained year-round, and old nests are often dismantled to build new ones. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and 23 records occur within 10 km.	
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	V,P		9	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, some eucalypt regrowth and an open canopy. Large, relatively undisturbed remnants are required for the species to persist in an area. The diet consists of seeds and insects, with most foraging taking place on the ground around tussocks and under bushes and trees. Pairs are sedentary and occupy a breeding territory of about ten hectares, with a slightly larger home-range when not breeding. The rounded, domed, roughly built nest of dry grass and strips of bark is located in a slight hollow in the ground or the base of a low dense plant, often among fallen branches and other litter. A side entrance allows the bird to walk directly inside. A clutch of 3-4 eggs is laid, between August and January, and both parents feed the nestlings. The eggs are a glossy red-brown, giving rise to the unusual folk names 'Blood Tit' and 'Chocolatebird'. Some cooperative breeding occurs. The species may act as host to the Black-eared Cuckoo. Speckled Warblers often join mixed species feeding flocks in winter, with other species such as Yellow-rumped, Buff-rumped, Brown and Striated Thornbills. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and nine records occur within 10 km.	Yes
<i>Rostratula australis</i>	Australian Painted Snipe	E1,P	E	4	The Australian Painted Snipe is restricted to Australia. Most records are from the south east, particularly the Murray Darling Basin, with scattered records across northern Australia and historical records from around the Perth region in Western Australia. In NSW many records are from the Murray-Darling Basin including the Paroo wetlands, Lake Cowal, Macquarie Marshes, Fivebough Swamp and more recently, swamps near Balldale and Wanganella. Other important locations with recent records include wetlands on the Hawkesbury River and the	No

					Clarence and lower Hunter Valleys. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds. Forages nocturnally on mud-flats and in shallow water. Feeds on worms, molluscs, insects and some plant-matter. Absent – Suitable wetland habitat does not occur within the subject site. The four records within the 10 km search area are both located at Narrabri Lake, approximately 8 km from the subject site.	
<i>Stagonopleura guttata</i>	Diamond Firetail	V,P	V	1	The Diamond Firetail is endemic to south-eastern Australia, extending from central Queensland to the Eyre Peninsula in South Australia. It 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, though is very rare west of the Darling River. Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Eucalyptus pauciflora Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Stictonetta naevosa</i>	Freckled Duck	V,P		0	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. 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. 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	No

					conditions are favourable. Nests are usually located in dense vegetation at or near water level.	
<i>Tringa nebularia</i>	Common Greenshank	E1,P	E,C,J,K	0	Absent – Suitable wetland habitat does not occur within the subject site. The Common Greenshank does not breed in Australia, however, the species occurs in all types of wetlands and has the widest distribution of any shorebird in Australia. The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and saltflats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores. The edges of the wetlands used are generally of mud or clay, occasionally of sand, and may be bare or with emergent or fringing vegetation, including short sedges and saltmarsh, mangroves, thickets of rushes, and dead or live trees. It was once recorded with Black-winged Stilts (<i>Himantopus himantopus</i>) in pasture, but are generally not found in dry grassland. Absent – Suitable wetland habitat does not occur within the subject site.	No
<i>Tringa stagnatilis</i>	Marsh Sandpiper	P	C,J,K	2	The Marsh Sandpiper is found on coastal and inland wetlands throughout Australia. The species is widespread in coastal Queensland, but few records exist north of Cooktown. It is recorded in all regions of NSW but especially the central and south coasts and (inland) on the western slopes of Great Divide and western plains. The Marsh Sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. In north Australia they prefer intertidal mudflats (Higgins & Davies 1996), although surveys in Kakadu National Park recorded more birds around shallow freshwater lakes than in areas influenced by tide (Bamford 1988). At the Top End they often use ephemeral pools on inundated freshwater and tidal floodplains (Higgins & Davies 1996). Three of the five sites with highest recorded numbers are saltwater habitats (Hunter Estuary, NSW; Port Hedland Saltworks, Western Australia; Tullakool Evaporation Ponds, NSW) (Watkins 1993). In the	No

					south-east Gulf of Carpentaria they have been recorded round both saline and fresh waters (Garnett 1989). Elsewhere they said to avoid, or rarely occur in, tidal habitats, and rarely occur on beaches. In Western Australia they prefer freshwater to marine environments. In south-east Australia they prefer inland saline lakes and coastal saltworks. They are found infrequently around mangroves (Higgins & Davies 1996). Absent – Suitable wetland habitat does not occur within the subject site. The two records within the 10 km search area are both located at Narrabri Lake, approximately 8 km from the subject site.	
<i>Tyto longimembris</i>	Eastern Grass Owl	V,P,3		0	Eastern Grass Owls have been recorded occasionally in all mainland states of Australia but are most common in northern and north-eastern Australia. In NSW they are more likely to be resident in the north-east. Eastern Grass Owl numbers can fluctuate greatly, increasing especially during rodent plagues. Habitat and ecology Eastern Grass Owls are found in areas of tall grass, including grass tussocks, in swampy areas, grassy plains, swampy heath, and in cane grass or sedges on flood plains. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Tyto novaehollandiae</i>	Masked Owl	V,P,3		0	Extends from the coast where it is most abundant to the western plains. Overall records for this species fall within approximately 90% of NSW, excluding the most arid north-western corner. There is no seasonal variation in its distribution. Lives in dry eucalypt forests and woodlands from sea level to 1100 m. A forest owl, but often hunts along the edges of forests, including roadsides. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Aepyprymnus rufescens</i>	Rufous Bettong	V,P		0	The original range from Coen in north Queensland to central Victoria has been reduced to a patchy distribution from Cooktown, Queensland, to north-eastern NSW as far south as Mt Royal National Park. In NSW it has largely vanished from inland areas but there are sporadic, unconfirmed records from the Pilliga and Torrington districts. Rufous Bettongs inhabit a variety of forests from tall, moist eucalypt forest to open woodland, with a tussock grass understorey. A dense cover of tall native grasses is the preferred shelter.	No

					Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	
<i>Bettongia lesueur graii</i>	Boodie, Burrowing Bettong (mainland)	E4,P	X	0	The mainland subspecies (<i>graii</i>) is now extinct; however, two subspecies occur on islands off the coast of Western Australia; one undescribed subspecies on Boodie and Barrow Islands off the Pilbara coast; the other (<i>lesueur</i>) on Bernier and Dorre Islands off Shark Bay. Both these subspecies are listed nationally as vulnerable. It is the latter subspecies that has been used to establish a population in feral-free enclosures at the Australian Wildlife Conservancy run Scotia Sanctuary in south western New South Wales. The Boodie once lived in a range of dry subtropical and tropical habitats, from open Eucalyptus and Acacia woodlands to arid spinifex grasslands. In its current range on the islands, it seems to prefer open Triodia (spinifex) and dune habitats, but will burrow anywhere except places with rocky substrate. Absent – This species is considered extinct.	No
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V,P		0	The Eastern Pygmy-possum is found in south-eastern Australia, from southern Queensland to eastern South Australia and in Tasmania. In NSW it extends from the coast inland as far as the Pilliga, Dubbo, Parkes and Wagga Wagga on the western slopes. 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. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E1,P	E	0	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. There are scattered records from the New England Tablelands and North West Slopes. Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>), 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 and overhangs. They remain loyal to the same cave over many years. Found in well-timbered areas containing gullies.	No

					Low – Although an associated PCT (411) is present, the subject site is not within the species known distribution and no records occur within 10 km.	
<i>Chalinolobus nigrogriseus</i>	Hoary Wattled Bat	V,P		0	Widely distributed across northern Australia although absent from the arid centre. In north east NSW it extends from Port Macquarie in the south, north to the Queensland border. The species has been recorded as far west as Armidale and Ashford. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Chalinolobus picatus</i>	Little Pied Bat	V,P		1	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 and mallee and Bimil box woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and one record occurs within 10 km.	Yes
<i>Conilurus albipes</i>	White-footed Tree-rat	E4,P	X	0	The White-footed Tree-rat was endemic to Australia. Pleistocene and recent fossils from cave deposits indicate the species were distributed in south-eastern South Australia, southern Victoria, eastern New South Wales and southern Queensland. Although the species was widely distributed, it was not abundant in numbers. This species is presumed to be extinct, however it is not known exactly when the last populations died. The White-footed Tree-rat was reported as being common in Victoria in 1846, but its population appeared to decline rapidly and has not been recorded since approximately 1860 in this state. The last specimen near Sydney was recorded in 1845, however some sightings were reported in 1857 and perhaps as late as the 1930s. Absent – This species is considered extinct.	No
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	0	The range of the Spotted-tailed Quoll has contracted considerably since European settlement. It is now found in eastern NSW, eastern Victoria, south-east and north-eastern Queensland, and Tasmania. Only in Tasmania is it still considered relatively common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites.	No

					Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		0	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. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Isoodon auratus auratus</i>	Golden Bandicoot (mainland)	E4,P	V	0	It is now extinct on the mainland except in a few locations in the north-west Kimberley between Mitchell Plateau in the north. Absent – This species is considered extinct in NSW.	No
<i>Lagorchestes leporides</i>	Eastern Hare-wallaby	E4,P	X	0	This species once inhabited the interior of New South Wales, Victoria and the Murray River region of South Australia. It was common in the level country between the Murray and Darling rivers, as well as the Liverpool Plains. The Eastern Hare-wallaby preferred habitat that consisted of open plains and grasslands. It was a strictly nocturnal animal which led a solitary lifestyle. During the day it sat still in a well-formed 'seat', usually in the shelter of a saltbush or a tussock. If approached too closely, it would bound off at great speed. Absent – This species is considered extinct.	No
<i>Leporillus apicalis</i>	Lesser Stick-nest Rat	E4,P	X	0	Formerly widespread in Australia; the last specimen of the Lesser Stick-nest Rat was captured near Mt Crombie, South Australia in 1933. In the nineteenth century it occupied a broad area stretching from the Riverina in New South Wales, through most of inland South Australia and into the Gibson Desert, reaching the Western Australian coast in the Gascoyne region. The Lesser Stick-nest Rat is presumed to have become extinct in the Northern Territory by the 1940s, following a broad-scale decline extending over at least the previous 30 years. A potential record of the species from 1970, together with continued occasional reports of fresh vegetation being added to old stick-nests provides speculations that the Lesser Stick-nest Rat may still be extant. Much of the species' range was in remote portions of central Australia, which have not been fully surveyed. If the species is found to persist, numbers are likely to be very small and conservation action will be extremely urgent. The Lesser Stick-nest Rat was found in arid and semi-arid areas of central Australia.	No

					Absent – This species is considered extinct.	
<i>Leporillus conditor</i>	Greater Stick-nest Rat	E4,P	V	0	The Greater Stick-nest Rat were once found through much of arid and semi-arid Australia, from Shark Bay to western New South Wales and north-western Victoria. By the 1930s Greater Stick-nest Rats were extinct on the mainland. A small population survived only on East and West Franklin Islands, off the far west coast of South Australia. In an effort to save the species, captive-bred animals from these islands have been released in other South Australian sites as well as on Salutation Island, in Henri Freycinet Harbour, and on Heirisson Prong, both in the Shark Bay World Heritage Area. They are found nowhere else in the world. The Greater Stick-nest Rats inhabit semi-arid to arid perennial shrublands where there is little or no fresh water, particularly with succulent and semi-succulent plant species.	No
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		0	Absent – This species is considered extinct in NSW. The Eastern Freetail-bat is found along the east coast from south Queensland to southern NSW. Occur in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V,P		0	Large Bentwing-bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Low – Although an associated PCT (411) is present, the subject site is not within the species known distribution and no records occur within 10 km.	No
<i>Notamacropus dorsalis</i>	Black-striped Wallaby	E1,P		177	From the Townsville area in Queensland to northern NSW where it occurs on both sides of the Great Divide. On the north west slopes of NSW it occurs in Brigalow remnants to south of Narrabri. On the north coast it is confined to the upper catchments of the Clarence and Richmond Rivers. Preferred habitat is characterised by dense woody or shrubby vegetation within three metres of the ground. This dense vegetation must occur near a more open, grassy area to provide suitable feeding habitat. On the north west slopes, associated with dense vegetation, including brigalow, ooline and semi-evergreen vine thicket. On the north coast, closely associated with dry rainforest but also occur in moist eucalypt forest with a rainforest understorey or a dense shrub layer.	Yes

					High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and 177 records occur within 10 km.	
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	V,P	V	0	Overall, the distribution of the south eastern form coincides approximately with the Murray Darling Basin with the Pilliga Scrub region being the distinct stronghold for this species. Inhabits a variety of vegetation types, including mallee, bullock <i>Allocasuarina leuhmanni</i> 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. Roosts in tree hollows, crevices, and under loose bark. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Onychogalea fraenata</i>	Bridled Nailtail Wallaby	E4,P	E	0	In the mid-nineteenth century the species ranged from the Murray River region of north-western Victoria through central NSW, and north to Charters Towers in Queensland. The species' range has declined dramatically during the last century; it is currently presumed extinct in NSW and for over 30 years the species was believed to be extinct across its range. In 1973 researchers confirmed a population of Bridled Nailtail Wallabies on a property in central Queensland. New populations of the wallaby have been re-introduced to habitats it once occupied to aid recovery of the species. In 1996 Bridled Nailtails were introduced to Idalia National Park and in 2005 the population was estimated at over 300 individuals. The Bridled Nail-tail Wallaby previously occupied Acacia shrubland and grassy woodland in semi-arid regions of eastern Australia. The wallabies are most active during the night-time and dusk periods. Day is usually spent sleeping in hollows near bushes or trees. In modern habitats, nail-tails keep close to the edges of pasture grasses. Absent – This species is considered extinct in NSW.	No
<i>Petaurus australis</i>	Yellow-bellied Glider	V,P	V	0	The Yellow-bellied Glider is found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria. Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		1	Inhabits woodlands and dry sclerophyll forests, usually in diverse stands of shrubs and trees. Shelters and breeds in tree hollows, and	Yes

					is primarily an insectivorous animal but, has also been known to ingest plant exudates.	
					High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E1,P	V	0	The range of the Brush-tailed Rock-wallaby extends from south-east Queensland to the Grampians in western Victoria, roughly following the line of the Great Dividing Range. However, the distribution of the species across its original range has declined significantly in the west and south and has become more fragmented. In NSW they occur from the Queensland border in the north to the Shoalhaven in the south, with the population in the Warrumbungle Ranges being the western limit. Occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges, often facing north. Shelter or bask during the day in rock crevices, caves and overhangs and are most active at night when foraging. Browse on vegetation in and adjacent to rocky areas eating grasses and forbs as well as the foliage and fruits of shrubs and trees. Highly territorial and have strong site fidelity with an average home range size of about 15 ha. Males tend to have larger home ranges than females. The home range consists of a refuge area and a foraging range linked by habitually used commuting routes. Females settle in or near their mother's range, while males mainly disperse between female groups within colonies, and less commonly between colonies. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Phascolarctos cinereus</i>	Koala	E1,P	E	4	The Koala has a fragmented distribution throughout eastern Australia from north-east Queensland to the Eyre Peninsula in South Australia. In New South Wales, koala populations are found on the central and north coasts, southern highlands, southern and northern tablelands, Blue Mountains, southern coastal forests, with some smaller populations on the plains west of the Great Dividing Range. Inhabit eucalypt woodlands and forests. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and four records occur within 10 km.	Yes
<i>Pseudomys australis</i>	Plains Mouse	V,P	V	0	The Plains Rat is restricted to the gibber (stone-covered) plains of Lake Eyre Basin in northern South Australia, and is now presumed to be extinct in Queensland and NSW. The previous distribution of this species extended from the western edge of the Nullabor Range, to	No

					central Queensland, as well as the inland slopes of the Great Dividing Range to the mouth of the Murray River. In the Northern Territory, it was formerly present only in the extreme south-east region.	
<i>Pseudomys gouldii</i>	Gould's Mouse	E4,P	X	0	Absent – This species is considered extinct in NSW. Sightings of live animals and reports of subfossil remains indicate that Gould's Mouse was formerly distributed throughout south-west Western Australia, eastern South Australia and New South Wales. Little is known of Gould's Mouse. The species is reported to have preferred sandhills and plains, and to make burrows under bushes in loose soil. Absent – This species is considered extinct.	No
<i>Pseudomys oralis</i>	Hastings River Mouse	E1,P	E	0	A patchy distribution spanning the Great Dividing Range from the Hunter Valley, south of Mt Royal, north to the Bunya Mountains near Kingaroy in south-east Queensland, at elevations between 300 m and 1100 m. A variety of dry open forest types with dense, low ground cover and a diverse mixture of ferns, grass, sedges and herbs. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Pseudomys pilligaensis</i>	Pilliga Mouse	V,P	V	0	Distribution restricted to the Pilliga region of New South Wales. However, a Pilliga Mouse was reportedly trapped in the Warrumbungles after a major wildfire in January 2013, suggesting a sparse local population may have previously existed that could now respond to early stages of the post-fire succession. The Pilliga Mouse typically occurs at low densities and appears to prefer areas with sparse ground cover. Evidence exists of marked population fluctuations. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	1	Grey-headed Flying-foxes are generally found within 200 km of the eastern coast of Australia, from Rockhampton in Queensland to Adelaide in South Australia. In times of natural resource shortages, they may be found in unusual locations. 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 and are commonly found in gullies, close to water, in vegetation with a dense canopy. Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young.	Yes

					Annual mating commences in January and conception occurs in April or May; a single young is born in October or November. Site fidelity to camps is high; some camps have been used for over a century. Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km. Feed on the nectar and pollen of native trees, in particular <i>Eucalyptus</i>, <i>Melaleuca</i> and <i>Banksia</i>, and fruits of rainforest trees and vines. Also forage in cultivated gardens and fruit crops. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and one record occurs within 10 km.	
<i>Rattus villosissimus</i>	Long-haired Rat	V,P		0	Long-haired Rat has been recorded over vast areas of western NSW. Strongholds are north-west of NSW, with plagues spreading south and east along river channels. Otherwise, the species is found in scattered localities in low numbers. Eats roots, stems and leaves of grasses and herbs, especially the more succulent species. Seeds, flowers and insects (e.g. locust) which become available in better seasons stimulate reproduction. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V,P		6	The Yellow-bellied Sheathtail-bat is a wide-ranging species found across northern and eastern Australia. In the most southerly part of its range - most of Victoria, south-western NSW and adjacent South Australia - it is a rare visitor in late summer and autumn. There are scattered records of this species across the New England Tablelands and North West Slopes. Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory. Breeding has been recorded from December to mid-March, when a single young is born. Seasonal movements are unknown; there is speculation about a migration to southern Australia in late summer and autumn. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and six records occur within 10 km.	Yes
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		0	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,	No

					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. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	
<i>Sminthopsis macroura</i>	Stripe-faced Dunnart	V,P		0	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, Wyallda and Ashford. Native dry grasslands and low dry shrublands, often along drainage lines where food and shelter resources tend to be better. Low – Subject site is within the species predicted geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V,P		1	The Eastern Cave Bat is found in a broad band on both sides of the Great Dividing Range from Cape York to Kempsey, with records from the New England Tablelands and the upper north coast of NSW. The western limit appears to be the Warrumbungle Range, and there is a single record from southern NSW, east of the ACT. Very little is known about the biology of this uncommon species. A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; has been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals. Occasionally found along cliff-lines in wet eucalypt forest and rainforest. Little is understood of its feeding or breeding requirements or behaviour. BioNet Atlas states that the species occurs within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes

<i>Anomalopus mackayi</i>	Five-clawed Worm-skink	E1,P	V	1	Five-clawed Worm-skink has Patchy distribution on the North West Slopes and Plains of north-east NSW and south-east Queensland, from the Ashford area west to Mungindi and Walgett in NSW and north to Dalby in Queensland. Close to or on the lower slopes of slight rises in grassy White Box woodland on moist black soils, and River Red Gum-Coolibah-Bimble Box woodland on deep cracking loose clay soils. May also occur in grassland areas and open paddocks with scattered trees. Live in permanent deep tunnel-like burrows and deep soil cracks, coming close to the surface under fallen timber and litter, especially partially buried logs. Moderate – Subject site is within the species known geographic distribution and a record occurs within 10 km. However, no associated PCTs are present.	Yes
<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V,P	V	0	The Pink-tailed Legless Lizard is 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 (<i>Themeda triandra</i>). Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Delma vescolineata</i>	Hunter Valley Delma	E1	E	0	<i>Delma vescolineata</i> is known almost entirely from a 25 km wide corridor in the Hunter Valley, between Maitland and Muswellbrook, New South Wales. A further specimen has been identified from just north of Parraweena on the Liverpool Plains, approximately 80 km north-west of Muswellbrook. It is possible that <i>D. vescolineata</i> is more widespread in this region. The sites where the species has been detected include rehabilitated mine sites and pastoral land used for cattle grazing. At this time, no sites occur within a protected area. There are insufficient genetic samples of this species to determine if there is any sub-structuring of the population. The species is found mainly in Natural Temperate Grassland but has also been captured in grasslands that have a high exotic component. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Hemiaspis damelii</i>	Grey Snake	E1,P	E	2	The Grey Snake has a wide overall range from inland southern NSW to central Queensland, though the distribution is not continuous across	Yes

					this full range and consists of several isolated subpopulations. In NSW the species occupies five geographically discrete subpopulations, predominantly associated with the lower reaches of major westerly flowing rivers, including the Gwydir, Namoi, Castlereagh, Macquarie, Lachlan, and Murrumbidgee River systems. Some NSW subpopulations occur in protected areas including Yanga National Park and Gayini Nimmie-Caira, a property under the management and ownership of the Nari Nari Tribal Council in southern NSW. Subpopulations also occur in two internationally important wetlands, the Gwydir Wetlands and the Macquarie Marshes, both of which are listed on the Ramsar Convention on Wetlands, as well as in the Great Cumbung Swamp, which is included in the Directory of Nationally Important Wetlands. Moderate – Subject site is within the species known geographic distribution and two records occur within 10 km. However, no associated PCTs are present.	
<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	V,P		0	A patchy distribution from north-east Queensland to the north-eastern quarter of NSW. In NSW it has historically been recorded from as far west as Mungindi and Quambone on the Darling Riverine Plains, across the north west slopes, and from the north coast from Queensland to Sydney. A small number of historical records are known for the New England Tablelands from Glenn Innes and Tenterfield; however, the majority of records appear to be from sites of relatively lower elevation. Although the Pale-headed snake distribution is very cryptic, it now appears to have contracted to a patchy and fragmented distribution. The Pale-headed Snake is a highly cryptic species that can spend weeks at a time hidden in tree hollows. Found mainly in dry eucalypt forests and woodlands, cypress forest and occasionally in rainforest or moist eucalypt forest. In drier environments, it appears to favour habitats close to riparian areas. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Uvidicolus sphyrurus</i>	Border Thick-tailed Gecko	V,P	V	0	Found only on the tablelands and slopes of northern NSW and southern Queensland, reaching south to Tamworth and west to Moree. Most common in the granite country of the New England Tablelands. Occurs at sites ranging from 500 to 1100 m elevation. Populations are mostly fragmented, with over 50 discrete sites currently known that are separated by at least 2 km.	No

					Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	V		0	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. Associated species include <i>Eucalyptus albens</i>, <i>E. blakelyi</i> and <i>Callitris</i> spp., with an understorey dominated by <i>Cassinia</i> spp. and grasses. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Acacia pendula</i>	Acacia pendula population in the Hunter catchment	E2		0	This Hunter population is known to occur naturally as far east as Warkworth, and extends northwest to Muswellbrook and to the west of Muswellbrook at Wybong. Only recorded to date at 6 locations: Jerrys Plains, Edderton, Wybong, Appletree Creek, Warkworth and Appletree Flat. These locations occur within the Muswellbrook and Singleton Local Government Areas, with the population potentially also occurring within the Mid-Western Regional and Upper Hunter LGA's. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Androcalva procumbens</i>		V	V	0	<i>Androcalva procumbens</i> is endemic to NSW and is known from the Dubbo–MedooranGilgandra region, the Cobar region, and the upper Hunter Valley. The species occurs in sandy soils, often in disturbed habitats such as road verges, quarry boundaries, gravel stockpiles, and power line easements. Often found in communities of <i>Eucalyptus dealbata</i>–<i>E. sideroxylon</i> woodland, <i>Melaleuca uncinata</i> shrubland, and mallee eucalypt with <i>Calytrix tetragona</i> understorey. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Bertya mollissima</i>		E1	E	0	<i>Bertya mollissima</i> is endemic to north-eastern New South Wales (NSW) and has been known to occur historically from Mount Kaputar, Warrumbungle and Liverpool Ranges to the Scone and Singleton	No

					districts. Within the last ~20 years only four subpopulations have been known to be extant: Mount Kaputar summit and Waa Gorge in Mount Kaputar NP, Ukerbarley Aboriginal Area, and Bundella Lookout in Coolah Tops NP. Grows on steep hillsides and mountain summits in shallow sandy or gravelly soil in rock cracks and among boulders. The species typically occurs within heath or open woodland communities surrounded by Eucalyptus spp. between 500 to 1500 m above sea level Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	
<i>Bertya opposens</i>	Coolabah Bertya	V	V	1	This plant is currently known from only four scattered sites in NSW: one from private property near Coolabah in western NSW and two to the south of Narrabri on the North West Slopes, including the largest population in Jacks Creek State Forest. The fourth population was known from private property near Cobar but this population has not been seen since 1982 and is possibly now extinct. Coolabah Bertya occurs in a range of habitats including stony mallee ridges and cypress pine forest on red soils. The wide variation in habitat type between the populations makes the identification of critical habitat very difficult. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Cadellia pentastylis</i>	Ooline	V	V	0	Occurs along the western edge of the North West Slopes from north of Gunnedah to west of Tenterfield. Also occurs in Queensland. The natural range of Ooline is from 24°S to 30°S in the 500 to 750 mm per annum rainfall belt. Appears to flower spasmodically, during a general flowering period of October to January. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Cymbidium canaliculatum</i>	Cymbidium canaliculatum population in the Hunter Catchment	E2,P,2		0	The Hunter population is known to occur naturally as far south as Weston and Pokolbin in the Lower Hunter, which represents its south-eastern geographic limit, but appears to be more centred in the Upper Hunter, predominantly north of Singleton. In this area it is chiefly known from an area bounded by Ravensworth, Muswellbrook, Denman and Sandy Hollow, but extends northwards to the Aberdeen – Scone – Wingen districts. Isolated occurrences are also known from the Merriwa plateau, Bylong valley and the Gungal	No

					area near Goulburn River (including the Goulburn River National Park). Nevertheless, the population is defined as occurring in the Hunter Catchment, and as such may be present in any of the local government areas of Cessnock, Maitland, Dungog, Singleton, Muswellbrook, Newcastle, Port Stephens, part of Mid-western Regional, and part of Upper Hunter. The vast majority of individuals (>90%) occur on private property, scattered across 30-40 sites, predominantly in the Muswellbrook and Upper Hunter LGAs. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	
<i>Cynanchum elegans</i>	White-flowered Wax Plant	E1	E	0	Restricted to eastern NSW where it is distributed from Brunswick Heads on the north coast to Gerroa in the Illawarra region. The species has been recorded as far west as Merriwa in the upper Hunter River valley. The White-flowered Wax Plant usually occurs on the edge of dry rainforest vegetation. Other associated vegetation types include littoral rainforest; Coastal Tea-tree <i>Leptospermum laevigatum</i> – Coastal Banksia <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> coastal scrub; Forest Red Gum <i>Eucalyptus tereticornis</i> aligned open forest and woodland; Spotted Gum <i>Corymbia maculata</i> aligned open forest and woodland; and Bracelet Honey-myrtle <i>Melaleuca armillaris</i> scrub to open scrub. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Cyperus conicus</i>		E1		0	<i>Cyperus conicus</i> occurs rarely in the Pilliga area of NSW and is also found across the tropics in in Qld, WA and the NT, including central deserts north of Alice Springs. Grows in open woodland on sandy soil. In central Australia, the species grows near waterholes and on the banks of streams in sandy soils. In Qld the species usually found on heavy soils. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Desmodiopsis campylocaulon</i>	Creeping Tick-trefoil	E1		0	Creeping Tick-trefoil occurs chiefly in the Collarenebri and Moree districts in the north-western plains of NSW. Also occurs in the NT and Darling Downs district of south-eastern Queensland. Creeping Tick-Trefoil is confined to clay soils, usually with <i>Astrebla</i> and <i>Iseilema</i> species.	No

					Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	
<i>Dichanthium setosum</i>	Bluegrass	V	V	1	Bluegrass occurs on the New England Tablelands, North West Slopes and Plains and the Central Western Slopes of NSW, extending to northern Queensland. It occurs widely on private property, including in the Inverell, Guyra, Armidale and Glen Innes areas. Associated species include <i>Eucalyptus albens</i>, <i>Eucalyptus melanophloia</i>, <i>Eucalyptus melliodora</i>, <i>Eucalyptus viminalis</i>, <i>Myoporum debile</i>, <i>Aristida ramosa</i>, <i>Themeda triandra</i>, <i>Poa sieberiana</i>, <i>Bothriochloa ambigua</i>, <i>Medicago minima</i>, <i>Leptorhynchus squamatus</i>, <i>Lomandra aff. longifolia</i>, <i>Ajuga australis</i>, <i>Calotis hispidula</i> and <i>Austrodanthonia</i>, <i>Dichopogon</i>, <i>Brachyscome</i>, <i>Vittadinia</i>, <i>Wahlenbergia</i> and <i>Psoralea</i> species. Moderate – Subject site is within the species known geographic distribution and a record occurs within 10 km. However, no associated PCTs are present.	Yes
<i>Digitaria porrecta</i>	Finger Panic Grass	E1		0	Generally occupies deep, low-nutrient sands, often those subject to periodic inundation or where water tables are relatively high. It occurs in dry sclerophyll woodland with dry heath understorey. It also occurs as an emergent in dry or wet heathland. Often where this species occurs, it is a community dominant. Low – Subject site is within the species predicted geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Diuris tricolor</i>	Pine Donkey Orchid	V,P,2		1	Sporadically distributed on the western slopes of NSW, extending from south of Narrandera all the way to the north of NSW. Localities in the south include Red Hill north of Narrandera, Coolamon, and several sites west of Wagga Wagga. Condobolin-Nymagee road, Wattamondara towards Cowra, Eugowra, Girilambone, Dubbo and Cooyal, in the Central West. Pilliga SCA, Pilliga National Park and Bibblewindi State Forest in the north (and extending into Queensland) and Muswellbrook in the east. Disturbance regimes are not known, although the species is usually recorded from disturbed habitats. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Eriocaulon australasicum</i>	Austral Pipewort	E1	E	0	Known in NSW from widely separated populations: a very early "Murray River" collection and recent collections near Braidwood and in the Pilliga. The species is known from three sites in Victoria, one of	No

					which just extends into South Australia. Known from very few collections, with the type habitat described as “wet places along the Murray towards junction of Murrumbidgee”. In populations near Braidwood and in the Pilliga, it grows in mud in ephemeral water bodies. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	
<i>Eucalyptus camaldulensis</i>	Eucalyptus camaldulensis population in the Hunter catchment	E2		0	The Hunter population occurs from the west at Bylong, south of Merriwa, to the east at Hinton, on the bank of the Hunter River, in the Port Stephens local government area. It has been recorded in the local government areas of Lithgow, Maitland, Mid-Western Regional, Muswellbrook, Port Stephens, Singleton and Upper Hunter. May occur with <i>Eucalyptus tereticornis</i>, <i>Eucalyptus melliodora</i>, <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> and <i>Angophora floribunda</i>. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Eucalyptus cannonii</i>	Capertee Stringybark	V		0	The Capertee Stringybark is predominantly restricted to the central tablelands and slopes of NSW between the Golden Highway in the north, and the Mitchell Highway in the south. The species' distribution is bounded from east of Bathurst, to Wallerawang near Lithgow, north along the western edge of Wollemi National Park and north-west to Mudgee; isolated occurrences are known from a short way north of Goulburn River National Park between Dunedoo and Merriwa. Within this area the species is often locally frequent. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Homopholis belsonii</i>	Belson's Panic	E1	V	0	Belson's Panic occurs on the northwest slopes and plains of NSW, mostly between Wee Waa, Goondiwindi and Glen Innes. It also occurs in Queensland, mainly in the Brigalow Belt South bioregion. Grows in dry woodland (e.g. Belah) often on poor soils, although sometimes found in basalt-enriched sites north of Warialda and in alluvial clay soils. Habitat and ecology appear to be poorly known. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No

<i>Homoranthus darwinioides</i>	Fairy Bells	V	V	0	Rare in the central tablelands and western slopes of NSW, occurring from Putty to the Dubbo district. It is found west of Muswellbrook between Merriwa and Bylong, and north of Muswellbrook to Goonoo SCA. The species has been collected from Lee's Pinch, but not relocated at its original locality north of Mt Coricudgy above the headwaters of Widden Brook. Grows in in various woodland habitats with shrubby understoreys, usually in gravelly sandy soils. Landforms the species has been recorded growing on include flat sunny ridge tops with scrubby woodland, sloping ridges, gentle south-facing slopes, and a slight depression on a roadside with loamy sand. Low – Subject site is within the species known geographic distribution. However, no associated PCTs are present, and no records occur within 10 km.	No
<i>Homoranthus prolixus</i>	Granite Homoranthus	V	V	0	Occurs in scattered locations between Inverell and Manilla. This species is conserved in Ironbark Nature Reserve, Gwydir River National Park and Tingha Plateau and Goonoowigal State Conservation Areas west of Guyra. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Indigofera efoliata</i>	Leafless Indigo	E1,3	E	0	Very rare and was presumed extinct with the last known collection made in 1955 with three unvouchered reports from Goonoo State Forest in 1963. In spring 2021 the species was rediscovered near Geurie. <i>Indigofera efoliata</i> was only known only from a few collections in the Dubbo area. Known sites were located along the Dubbo to Minore railway line and road, on Wallaringa and Geurie properties and in Goonoo State Forest. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Lepidium aschersonii</i>	Spiny Peppercreess	V	V	34	Not widespread, occurring in the marginal central-western slopes and north-western plains regions of NSW (and potentially the south western plains). In the north of the State recent surveys have recorded a number of new sites including Brigalow Nature Reserve, Brigalow State Conservation Area, Leard State Conservation Area and Bobbiwaa State Conservation Area. Also known from the West Wyalong in the south of the State. The Spiny Peppercreess occurs in periodically wet sites such as gilgai depressions and the margins of	Yes

					freshwater and saline marshes and shallow lakes, usually on heavy clay soil. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and 34 records occur within 10 km.	
<i>Lepidium monolocoides</i>	Winged Peppergrass	E1	E	141	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. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and 141 records occur within 10 km.	Yes
<i>Lobelia claviflora</i>		E4A,3	CE	0	A short-lived, ephemeral semi-arid species that occurs near Cuttabri, south west of Wee Waa in north western NSW. It is currently known from three sites that are no more than 5.5 km apart and located on private land in sedge-dominated wetlands occupying shallow basins on the Namoi River floodplain Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Monotaxis macrophylla</i>	Large-leafed Monotaxis	E1		0	Large-leafed Monotaxis is recorded from several highly disjunct populations in NSW: eastern edge of Deua NP (west of Moruya), Bemboka portion of South East Forests National Park, Cobar area (Hermitage Plains), the Tenterfield area, and Woodenbong (near the Queensland border). It is also in Queensland. A recent record from the eastern spur of the Nandewar Range is in the Namoi catchment. <i>Monotaxis macrophylla</i> displays the properties of a fire ephemeral species in many ways. Germination is stimulated by the passage of fire, individual plants have a short life span, a large biomass is produced in a short period of time, flowering occurs shortly after germination, and populations do not persist in the absence of fire. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No

<i>Muehlenbeckia</i> sp. Mt Norman	Scrambling Lignum	V		0	Sporadic after disturbance on North Coast, Northern and Central Tablelands. Mostly in rocky, higher-altitude sites following disturbance such as fire or clearing for powerlines. An old collection from Wallerawang possibly now underwater in artificial lake. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Myriophyllum implicatum</i>		E4A,2		1	This species was previously thought to be extinct in NSW; however the plant was recently discovered in the Pilliga National Park, south of Narrabri. It is known from Queensland and is listed as 'Least Concern' under that States Nature Conservation Act (1992). Occurs in moist situations, extending away from fresh water. Recent population found in a large open partly inundated gilgai depression on cracking clay soil. Moderate – Subject site is within the species known geographic distribution and a record occurs within 10 km. However, no associated PCTs are present.	Yes
<i>Polygala linariifolia</i>	Native Milkwort	E1		1	North from Copeton Dam and the Warialda area to southern Queensland; also found on the NSW north coast near Casino and Kyogle, and there is an isolated population in far western NSW near Weebah Gate, west of Hungerford. This species also occurs in Western Australia. In the Pilliga area, this species has been recorded in Fuzzy Box woodland, White Cypress Pine-Bulloak - Ironbark woodland, Rough-barked Apple riparian forb-grass open forest, and Ironbark - Brown Bloodwood shrubby woodland. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Pomaderris queenslandica</i>	Scant Pomaderris	E1		0	Widely scattered but not common in north-east NSW and in Queensland. It is known from several locations on the NSW north coast and a few locations on the New England Tablelands and North West Slopes, including near Torrington and Coolata. Found in moist eucalypt forest or sheltered woodlands with a shrubby understorey, and occasionally along creeks. Moderate – Subject site is within the species known geographic distribution and an associated PCT (411) is present. However, no records occur within 10 km.	Yes
<i>Pterostylis cobarensis</i>	Greenhood Orchid	V,P,2		5	Recorded from Bourke, Nyngan, Cobar, Nymagee, Warren, Gilgandra, Narrabri, Coonabarabran districts. Recorded from a	Yes

					number of reserves and state forests including Mutawintji, Gundabooka, Culgoa, Warrumbungles National Parks, Quanda, Yathong Nature Reserves, Mt Grenfell Historic Site and Bimbilwindi and Pilliga East State Forests. There are also records from the Darling Downs district of Queensland. Habitats are eucalypt woodlands, open mallee or <i>Callitris</i> shrublands on low stony ridges and slopes in skeletal sandy-loam soils. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and five records occur within 10 km.	
<i>Swainsona murrayana</i>	Slender Darling Pea	V	V	1	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. The species has been collected from clay-based soils, ranging from grey, red and brown cracking clays to red-brown earths and loams. Moderate – Subject site is within the species predicted geographic distribution and a record occurs within 10 km. However, no associated PCTs are present.	Yes
<i>Swainsona sericea</i>	Silky Swainson-pea	V		0	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. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Thesium australe</i>	Austral Toadflax	V	V	0	Austral Toad-flax is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia. Although originally described from material collected in the SW Sydney area, populations have not been seen in a long time. It may persist in some areas in the broader region. Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No

<i>Tylophora linearis</i>		V	E	1	Occurs from southern Queensland into central NSW, as far south near Temora with the majority of records occurring in the central western region. Records from Goonoo, Pillaga West, Pillaga East, Bibblewindi, Cumbil and Eura State Forests, Coolbaggie NR, Goobang NP and Beni SCA. Also has been recorded Hiawatha State Forest near West Wyalong in the south and there are old records as far north as Crow Mountain near Barraba and near Glenmorgan in the western Darling Downs. Grows in dry scrub and open forest. High – Subject site is within the species known geographic distribution, an associated PCT (411) is present, and a record occurs within 10 km.	Yes
<i>Zieria ingramii</i>	Keith's Zieria	E1	E	0	Known predominately from Goonoo SCA, about 40 km north-east of Dubbo. An old record exists from a locality east of Mogriguy on the Mendooran Road, however searches of the area have not relocated the species. Grows in dry sclerophyll forest on light sandy soils. All known populations have been recorded in <i>Eucalyptus-Callitris</i> woodland or open forest with a shrubby to heathy understorey. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No
<i>Zieria odorifera subsp. copelandii</i>		E4A		0	<i>Zieria odorifera subsp. copelandii</i> is endemic to New South Wales. Its distribution is very highly restricted, known only from a single population in Mount Kaputar National Park near Narrabri. The number of mature individuals is estimated to be extremely low with surveys for <i>Zieria odorifera subsp. copelandii</i> in 2012 and 2014 locating 15 individuals over an area of 1 hectare. Low – Subject site is not within the species known geographic distribution, no associated PCTs are present, and no records occur within 10 km.	No

*NSW Status: P=Protected, V=Vulnerable, E1=Endangered, E2=Endangered population, E4=Extinct, E4A=Critically endangered, 2=Category 2 sensitive species, 3=Category 3 sensitive species.

*Commonwealth Status: C=CAMBA, J=JAMBA, K=ROKAMBA, CE=Critically endangered, E=Endangered, V=Vulnerable, X=Extinct.

Likelihood of occurrence table for BC Act-listed Threatened Ecological Communities.

Community	NSW Status	Likelihood of Occurrence	5-part test required (Yes / No)
Artesian Springs Ecological Community in the Great Artesian Basin	E4B	Naturally restricted to the artesian springs of the Great Artesian Basin in north-western NSW. The springs occur where artesian water emerges at the surface through fault-lines in the overlying rock and produce mounds from the salts and sediments as the water evaporates. The vegetation within the community frequently consists of sedges or similar vegetation, however, trees and shrubs may be adjacent to the springs or nearby. Absent – Community did not occur within the subject site.	No
Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	E3	The Brigalow community is a low woodland or forest community dominated by Brigalow (<i>Acacia harpophylla</i>), with pockets of Belah (<i>Casuarina cristata</i>) and Poplar Box (<i>Eucalyptus populnea subsp. bimbil</i>). The canopy tends to be quite dense and the understorey and ground cover are only sparse. Absent – Community did not occur within the subject site.	No
<i>Cadellia pentastylis</i> (Ooline) community in the Nandewar and Brigalow Belt South Bioregions	E3	The Ooline community is an unusual and distinctive forest community with the canopy dominated by the tree Ooline (<i>Cadellia pentastylis</i>). Extensively cleared and now known from only seven main locations on the North West Slopes in NSW, between Narrabri and the Queensland border, and also in Queensland. Absent – Community did not occur within the subject site.	No
Carbeen Open Forest Community in the Darling Riverine Plains and Brigalow Belt South Bioregions	E3	Carbeen Open Forest Community is a distinctive plant community on the riverine plains of the Meehi, Gwydir, MacIntyre and Barwon Rivers and in small remnants farther south. This was previously an open forest community of flora and fauna that may now exist as woodland or as remnant trees. Characteristic tree species are Carbeen (<i>Corymbia tessellaris</i>) and White Cypress Pine (<i>Callitris glaucophylla</i>). Absent – Community did not occur within the subject site.	No
Carex Sedgeland of the New England Tableland, Nandewar, Brigalow Belt South and NSW North Coast Bioregions	E3	Carex Sedgelands are fens dominated by sedges, grasses and semi-aquatic herbs. They mainly occur in drainage depressions in valley floors, frost hollows, and undulating terrain between 440 and 1360 m in altitude. They are mostly found at higher altitude on tablelands but extend onto the slopes. The community has been recorded from the local government areas of Armidale Dumaresq, Warrumbungle, Glen Innes Severn, Guyra, Gwydir, Inverell, Liverpool Plains, Tamworth Regional, Uralla and Walcha. The	No

Community	NSW Status	Likelihood of Occurrence	5-part test required (Yes / No)
		community occupies an estimated extent of 5000 hectares, which is estimated to be a 50% decline in extent since European settlement. Less than 100 hectares is currently represented in conservation reserves in NSW. Absent – Community did not occur within the subject site.	
Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions	E3	A woodland community of flora and fauna is found on the grey, self-mulching clays of periodically waterlogged floodplains, swamp margins, ephemeral wetlands, and stream levees. The structure of the community may vary from tall riparian woodlands to very open 'savanna like' grassy woodlands with a sparse midstorey of shrubs and saplings. Typically these woodlands form mosaics with grasslands and wetlands, and are characterised by Coolibah (<i>Eucalyptus coolabah</i>) and, in some areas, Black Box (<i>E. largiflorens</i>). Other tree species may be present including River Cooba (<i>Acacia stenophylla</i>), Cooba (<i>A. salicina</i>), Belah (<i>Casuarina cristata</i>) and Eurah (<i>Eremophila bignoniiflora</i>). Absent – Community did not occur within the subject site.	No
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	E3	This ecological 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 South West Slopes, Brigalow Belt South and Darling Riverine Plains Bioregions. Mainly in the Dubbo-Narromine-Parkes-Forbes area. The 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. Absent – Community did not occur within the subject site.	No
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	E3	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. Absent – Community did not occur within the subject site.	No

Community	NSW Status	Likelihood of Occurrence	5-part test required (Yes / No)
Mount Kaputar high elevation and dry rainforest land snail and slug community in the Nandewar and Brigalow Belt South Bioregions	E3	Known from the Mount Kaputar National Park the EEC may also occur elsewhere in the region where suitable habitats exist. The EEC is restricted to higher altitudes (above about 1000 m) and dry rainforest (including semi-evergreen vine thicket) areas at lower elevations (above 500 m) in and around Mount Kaputar. The area greater than 1000 m AHD (Australian Height Datum) consists of about 107 km ² ; estimates of dry rainforest remnants below 1000 m AHD are less than 1 km ² . Absent – Community did not occur within the subject site.	No
Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions	E3	This ecological community is scattered across the eastern parts of the alluvial plains of the Murray-Darling river system. The community is also known as Boree particularly in the southern part of its distribution. Typically, it occurs on red-brown earths and heavy textured grey and brown alluvial soils within a climatic belt receiving between 375 and 500 mm mean annual rainfall. 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. Absent – Community did not occur within the subject site.	No
Native Vegetation on Cracking Clay Soils of the Liverpool Plains	E3	Native Vegetation on Cracking Clay Soils of the Liverpool Plains is mainly a native grassland community which includes a range of small forb and herb species. The main grass species include Plains Grass (<i>Austrostipa aristiglumis</i>), Queensland Bluegrass (<i>Dichanthium sericeum</i>) and Coolibah Grass (<i>Panicum queenslandicum</i>). This community is located around Coonabarabran, Gunnedah, Murrurundi, Narrabri, Tamworth and Quirindi, on the North West Slopes and Plains of NSW. It is estimated that 85 to 95% of this vegetation community has been converted through agriculture and community is not represented on conservation reserves. Most surviving remnants of the community are on Travelling Stock Routes. Absent – Community did not occur within the subject site.	No
Pilliga Outwash Ephemeral Wetlands in the Brigalow Belt South Bioregion	E3	Pilliga outwash ephemeral wetlands are found in a small area of Pilliga scrub generally associated with ephemeral creeks and waterways. They are formed on cracking, clay, alluvial soils and they form a chain of ponds. The ecological community has an	No

Community	NSW Status	Likelihood of Occurrence	5-part test required (Yes / No)
		exceptionally restricted geographic distribution. It is estimated that these wetlands are 2,342 km² in extent where one third of them is located within conservation reserves such as Pilliga National Park and Pilliga State Conservation Area; they may also occur in the Pilliga West State Conservation Area. Absent – Community did not occur within the subject site.	
Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar Bioregions	E3	A low, dense form of dry rainforest generally less than 10 m high, made up of vines and rainforest trees as well as some shrubs. A scattered distribution near Gunnedah, Barraba, Bingara and north of Wialda on the NSW North West Slopes and Plains, and also in Queensland. Absent – Community did not occur within the subject site.	No
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	E4B	Box-Gum Woodland is found from the Queensland border in the north, to the Victorian border in the south. It occurs in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions. Characterised by the presence or prior occurrence of White Box, Yellow Box and/or Blakely's Red Gum and a generally grassy understorey. Absent – Community did not occur within the subject site.	No

APPENDIX D – BC ACT TESTS OF SIGNIFICANCE

Biodiversity Conservation Act 2016 Test of significance

The threatened species ‘test of significance’ (or ‘5-part test’) is used to determine if a development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. The test of significance is set out in s.7.3 of the BC Act and is completed in accordance with the questions set out below:

The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

- a. in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,
- b. in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:
 - i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
 - ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
- c. in relation to the habitat of a threatened species or ecological community:
 - i. the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
 - ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
 - iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
- d. whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
- e. whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

BC Act Tests of Significance for Threatened Species.

Species Name	Common Name	a.	b.	c.	d.	e.	Impact Significance
<i>Aphelocephala leucopsis</i>	Southern Whiteface	Southern whitefaces live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. Birds build large bulky domed nest of grass, bark and roots, usually in a hollow or crevice, although sometimes in low bushes. The species was not detected during the field survey and no records occur within the 10 km search area. Furthermore, no hollow-bearing trees are present within the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Ardeotis australis</i>	Australian Bustard	This species mainly inhabits tussock and hummock grasslands, though prefers tussock grasses to hummock grasses. It breeds on bare ground on low sandy ridges or stony rises in ecotones between grassland and protective shrubland cover; roosts on ground among shrubs and long grasses or under trees. Preferred habitat for this species does not occur within the subject site. Furthermore, the species was not	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		detected during the field survey and no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.		adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	The Dusky Woodswallow inhabits dry, open eucalypt forests and woodlands. Nests are cup-shaped and constructed in the dense foliage of eucalypts. This species was not detected during the field survey and no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Burhinus grallarius</i>	Bush Stone-curlew	Nests on the ground in a scrape or small bare patch. Inhabits open forests and woodlands with a sparse grassy groundlayer and fallen timber. This species was not detected during the field survey and no records occur within the 10 km search area. As such, the proposal	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		is unlikely to place a local population at risk of extinction.		landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Calyptorhynchus lathamii lathamii</i>	South-eastern Glossy Black-Cockatoo	This species inhabits open forest and woodlands and breeds in large hollow-bearing eucalypts. Feeds almost exclusively on the seeds of several species of she-oak. Although the South-eastern Glossy Black-Cockatoo was not detected during the field survey, six records of this species occur within the 10 km search area and one potential feed tree species (<i>Allocasuarina luehmannii</i>) occurs within the subject site. However, the South-eastern Glossy Black-Cockatoo has not been recorded within the 10 km search area since 2018 and no suitable breeding trees were detected within the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of breeding trees, the inability to detect the species during the field survey, and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Circus assimilis</i>	Spotted Harrier	Spotted Harriers construct their nests in open and riparian woodlands. No evidence of the species and no potential nests were	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species	No, AOBV not present within or close to the	Yes. See Appendix F	No significant impact will arise to the local viability of this

		detected during the field survey. Furthermore, both of the records within the 10 km search area are located > 8.3 km from the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.		will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species or its nests during the field survey, and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	subject site.		species or its habitat due to the undertaking of the proposal.
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	Brown Treecreepers are found in eucalypt woodlands (including Box-Gum Woodlands) and dry open forests, typically preferring those that are dominated by stringybarks and other rough-barked eucalypts. Nesting occurs within hollows which are lined with grasses, feathers and other soft material. The species was not detected during the field survey and no records occur within the 10 km search area. Furthermore, no hollow-bearing trees occur within the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, and the lack of records within the 10 km search area, and the absence of hollow-bearing trees within	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				the subject site, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Daphoenositta chrysoptera</i>	Varied Sittella	The Varied Sittella inhabits eucalypt forests and woodlands and constructs a cup-shaped nest in an upright tree fork high in the living canopy, often reusing the same nest over successive years. This species was not detected during the field survey and only five records occur within the 10 km search area (all > 4.7 km from the subject site). Considering the above, and the small area of potential habitat within the subject site (0.60 ha), the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, the low number of records within the 10 km search area, and the small area of potential habitat to be impacted, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Falco subniger</i>	Black Falcon	The Black Falcon utilises the old nests of other birds of prey and ravens, generally close to waterways. No evidence of the species and no potential nests were detected during the field survey. Furthermore, the five records within the 10 km search area are all located > 4.9 km from the subject site. As such, the proposal is unlikely to	N/A	i. This species is not associated with any PCTs within the subject site ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		place a local population at risk of extinction.		iii. Considering the inability to detect the species or its nests during the field survey, and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Grantiella picta</i>	Painted Honeyeater	Breeds in nests within Boree/ Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) and Box-Gum Woodlands and Box-Ironbark Forests. Specialist feeder on the fruits of mistletoes. No evidence of the species and no mistletoe were detected during the field survey. Furthermore, no Painted Honeyeater records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species or mistletoe during the field survey, and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Hieraaetus morphnoides</i>	Little Eagle	Breeds in stick nests on open eucalypt forest, woodland or open woodland. Occurs throughout Australia, except in dense forests. No evidence of the species and no potential nests were detected during the field survey. Furthermore, the five records within the 10 km search area are all located > 8 km from the	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		subject site. As such, the proposal is unlikely to place a local population at risk of extinction.		exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species or its nests during the field survey, and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Hirundapus caudacutus</i>	White-throated Needletail	This is a migratory species which is usually seen in eastern Australia from October to April. It breeds in forests in south-eastern Siberia, Mongolia, the Korean Peninsula and northern Japan June-August. The species is more common in coastal areas, less so inland. As this species breeds exclusively outside of Australia, and they prefer coastal ecosystems, the subject site is unlikely to be critical to the lifecycle of the species. Furthermore, only two records of this species (both > 8.2 km from the subject site) occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering this migratory species has a very large range and prefers coastal ecosystems, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Lathamus discolor</i>	Swift Parrot	This species' life cycle revolves around the seasonal migration between the Australian mainland and Tasmania. As breeding habitat	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species	No, AOBV not present within or close to	Yes. See Appendix F	No significant impact will arise to the local viability of this

		occurs exclusively in Tasmania, only marginal foraging habitat should be impacted by the proposal. This species was not detected during the field survey and no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.		will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	the subject site.		species or its habitat due to the undertaking of the proposal.
<i>Lophochroa leadbeateri</i>	Pink Cockatoo	This species inhabits a wide range of treed and treeless inland habitats, always within easy reach of water. The life cycle of this species is reliant on the presence of large tree hollows. This species was not detected during the field survey and no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, the lack of records within the 10 km search area, and the absence of hollow-bearing trees, the subject	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				site is unlikely to be of importance to the long-term survival of this species.			
<i>Lophoictinia isura</i>	Square-tailed Kite	Found in a variety of timbered habitats including dry woodlands and open forests. Breeds in stick nests generally along or near watercourses. No evidence of the species and no potential nests were detected during the field survey. Furthermore, only one record occurs within the 10 km search area. This record is located > 8.5 km from the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species or its nests during the field survey, and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	This species builds a cup-shaped nest in a tree. Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses. This species was not detected during the field survey and no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Neophema pulchella</i>	Turquoise Parrot	This species inhabits the edges of eucalypt woodlands, adjoining clearings, timbered ridges, and waterways. Nesting occurs within small hollows, at least 6cm in diameter, relatively close to the ground (1-2 m). No hollow-bearing trees occur within the subject site. Furthermore, the species was not detected during the field survey and only one record (from 2006) occurs within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, the low number of records within the 10 km search area, and the lack of hollow-bearing trees, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Ninox connivens</i>	Barking Owl	Breeds in hollows in woodland and open forest, including fragmented remnants and partly cleared farmland. Requires very large permanent territories typically 2000 ha in NSW. No hollow-bearing trees occur within the subject site. Furthermore, all three records within the 10 km search area are located >	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		9.5 km from the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.		exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the low number of records within the 10 km search area, and the absence of hollow-bearing trees, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Pachycephala inornata</i>	Gilbert's Whistler	The Gilbert's Whistler requires a dense shrub-layer for foraging purposes. The species constructs their cup-shaped nest in the forks of dense foliage plants, such as large wattles and cypress pines. This species was not detected during the field survey and no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Parvipsitta pusilla</i>	Little Lorikeet	This species forages in the canopy of open <i>Eucalyptus</i> forests and woodlands and nests within the small hollow present in the limbs and trunks of large smooth-barked eucalypts. The species was not	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to

		detected during the field survey and no hollow-bearing trees occur within the subject site. Furthermore, the three records within the 10 km search area are all located > 8.3 km from the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.		ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, the low number of records within the 10 km search area, and the lack of hollow-bearing trees, the subject site is unlikely to be of importance to the long-term survival of this species.			the undertaking of the proposal.
<i>Polytelis swainsonii</i>	Superb Parrot	The Superb Parrot inhabits Box-Gum, Box-Cypress-pine, and River Red Gum forests. Nesting occurs within small hollows, generally at least 8 cm in diameter. No hollow-bearing trees occur within the subject site. Furthermore, the species was not detected during the field survey and only one record (from 2001) occurs within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, the low number of records within the 10 km search area, and the lack of hollow-bearing trees, the	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	This conspicuous species lives in family groups and makes a dome-shaped stick nest. No dome-shaped stick nests were detected during the field survey. In total, 23 records of this species occur within the 10 km search area. As such, the species may use the subject site for foraging purposes. Considering the far greater area of similar habitat which will remain within the study area (>150 ha), the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species or its nests during the field survey, and the far greater area of similar habitat that would remain within the study area (>150 ha), the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Pyrholaemus sagittatus</i>	Speckled Warbler	The Speckled Warbler is dependent on large, relatively undisturbed areas of Eucalypt dominated communities, with a thick grassy understory for breeding. Although nine records of this species occur within the 10 km search area, it was not detected during the field survey. Furthermore, the land surrounding the subject site has been partially disturbed (e.g., cleared access tracks and the operating power station). As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				iii. Considering the inability to detect the species during the field survey, the low number of records within the 10 km search area, and the disturbed nature of the surrounding landscape, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Stagonopleura guttata</i>	Diamond Firetail	This species builds a grass nest in trees or shrubs. Found in grassy eucalypt woodlands. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. This species was not detected during the field survey and only one record occurs within the 10 km search area. This single record is located > 8 km from the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Tyto novaehollandiae</i>	Masked Owl	The Masked Owl inhabits dry eucalypt forests and woodlands. Although it nests within heavily forested areas, it often hunts along the edges of forests, such as roadsides and water margins. Nesting requires large hollows. No hollow-bearing trees occur within the	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		subject site. Furthermore, no records of this species occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.		landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of hollow-bearing trees, and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	The Eastern Pygmy Possum shelters and nests within tree hollows, fallen timber, rotten stumps, and abandoned birds' nests. No hollow-bearing trees occur within the subject site. Furthermore, no records of this species occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of hollow-bearing trees, and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Chalinolobus picatus</i>	Little Pied Bat	The Little Pied Bat roosts in caves, rock outcrops, tunnels, and buildings, as well as small tree hollows. One record of this species (from 2006) occurs within the 10 km search area. However, no suitable	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal.	No, AOBV not present within or close to the	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its

		roosting habitat occurs within the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.		ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of roosting habitat, and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	subject site.		habitat due to the undertaking of the proposal.
<i>Notamacropus dorsalis</i>	Black-striped Wallaby	Preferred habitat is characterised by dense woody or shrubby vegetation within three metres of the ground. This dense vegetation must occur near a more open, grassy area to provide suitable feeding habitat. On the north west slopes, associated with dense vegetation, including brigalow, ooline and semi-evergreen vine thicket. Although 177 records of this species occur within the 10 km search area, 174 of these records are located within or adjacent to the Brigalow Nature Reserve and Brigalow State Conservation Area (>8.4 km from the subject site). Three records of this species occur outside of these protected areas; however, no records occur within 5.3 km from the subject site. Considering the above, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the large number of records occurring within protected areas, the lack of records within 5.3 km of the subject site, and the inability to detect the species during the field survey, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	Inhabits a variety of vegetation types, including mallee, bulloke <i>Allocasuarina leuhmanni</i> and box eucalypt dominated communities. Roosts in tree hollows, crevices, and under loose bark. No hollow-bearing trees occur within the subject site. Furthermore, no records of this species occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of hollow-bearing trees, and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Petaurus norfolcensis</i>	Squirrel Glider	The Squirrel Glider inhabits mature old growth forests, where it utilises the abundant number of tree hollows as refugia and nest sites. No hollow-bearing trees occur within the subject site. Furthermore, only one record of this species occurs within the 10 km search area. This record is located > 9.5 km from the subject site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of hollow-bearing trees, and the low number of records	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Phascolarctos cinereus</i>	Koala	The Koala is highly dependent on the presence of food tree species, with their distribution strongly associated with that of their food. The subject site occurs within the Western Slopes and Plains Koala Management Area. Therefore, one 'significant use' tree species (<i>Callitris glaucophylla</i>) and two 'occasional use' tree species (<i>Eucalyptus crebra</i> and <i>E. pilligaensis</i>) occur within or adjacent to the subject site. However, Considering the prior disturbance within the broader landscape, the subject site represents poor koala habitat. Furthermore, the species was not detected during the field survey and only four records occur within the 10 km search area. Of these records, three are > 32 years old. The most recent record (from 2018) is located > 8.3 km south of the subject site in an area containing a large patch of remnant woodland with greater connectivity. Considering the above, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the prior disturbance to the subject site and surrounding landscape, the inability to detect the species or during the field survey, and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Pseudomys pilligaensis</i>	Pilliga Mouse	Inconsistently described as favouring areas with sparse groundcover, broombush shrublands, areas with a moderate to high density of low shrubs, and sites with a dense cover of grasses and sedges with few shrubs. Considering	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to

		this uncertainty, the subject site cannot be ruled out on the basis of habitat limitations. The subject site may be suitable for use by this species. However, no records of the species are known within the 10 km search area. Given the small area of impact and the ubiquity of similar habitat in the landscape, the proposal is unlikely to place a local population at risk of extinction.		ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			the undertaking of the proposal.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	The Grey-headed Flying-fox resides within large roosting camps, generally located within 20 km of a regular food source. The nearest roost camp is approximately 90 km east of the subject site, at Barraba. When the camp was last active in 2022, it consisted of approximately 215 individuals (as per the National Flying-fox Monitor). Given the distance between the site and the nearest camp, if individuals were to appear, this would suggest usage of the habitat for transient foraging purposes. A single record of this species occurs at the edge of the 10 km search area. Considering the above, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the large distance between the subject site and known roost camps (90 km), and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	Roosts singly or in groups of up to six, in tree hollows and buildings. Six records of this species occur within the 10 km search area. However, all records are located > 5 km from the subject site and no roosting habitat was recorded on site. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of hollow-bearing trees, and the low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Vespadelus trouhoni</i>	Eastern Cave Bat	As a cave-roosting bat, the subject site does not contain suitable habitat features for the species. In addition, only one record (from 2006) occurs within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of roosting habitat, and the low number of records within	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Anomalopus mackayi</i>	Five-clawed Worm-skink	This species occurs close to or on the lower slopes of slight rises in grassy White Box woodland on moist black soils, and River Red Gum-Coolibah-Bimble Box woodland on deep cracking loose clay soils. May also occur in grassland areas and open paddocks with scattered trees. They live in permanent deep tunnel-like burrows and deep soil cracks, coming close to the surface under fallen timber and litter, especially partially buried logs. One record of this species (from 2015) occurs within the 10 km search area. This record is located > 8.7 km from the subject site. Considering the above, and the lack of associated PCTs, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is not associated with any PCTs within the subject site. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the low number of records within the 10 km search area and the small area of potential habitat (0.76), the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Hemiaspis damelii</i>	Grey Snake	Floodplains and ephemeral wetlands associated with heavy clay soils are key habitat features for the Grey Snake. In NSW, the Grey Snake's habitat includes the margins of ephemeral wetlands within River Red Gum (<i>Eucalyptus camaldulensis</i>) and Black Box (<i>E. largiflorens</i>) vegetation communities and Tangled Lignum (<i>Duma florulenta</i>) swamps. The species shelters in soil cracks, rocks, logs, flood debris, and abandoned burrows within these habitats. The	N/A	i. This species is not associated with any PCTs within the subject site. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of preferred habitat (ephemeral wetland or floodplain) and the	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		subject site does not occur within an ephemeral wetland or floodplain. Furthermore, only two records of this species (from 1978 and 2001) occur within the 10 km search area. Both records are located > 7.6 km from the subject site. Considering the above, the proposal is unlikely to place a local population at risk of extinction.		low number of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			
<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	The Pale-headed snake is dependent on an abundance of tree hollows, both for shelter and for acquiring food. No hollow-bearing trees occur within the subject site. Furthermore, no records of this species occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of records within the 10 km search area and the absence of hollow-bearing trees, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Androcalva procumbens</i>		Endemic to NSW, this species grows primarily in the Dubbo-Mendoora-Gilgandra region in association with <i>Eucalyptus dealbata</i> and <i>Eucalyptus sideroxylon</i> communities. These communities are not present within the subject site. Furthermore, no	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to

		<i>Androcalva procumbens</i> records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.		ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the absence of associated with <i>Eucalyptus dealbata</i> and <i>Eucalyptus sideroxylon</i> communities, and the lack of <i>Androcalva procumbens</i> records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.			the undertaking of the proposal.
<i>Bertya opposens</i>	Coolabah Bertya	Occurs in a wide range of habitats, including stony ridges among mallees and in Cypress-pine forests on red soils. The species was not detected during the field survey, which was conducted during the appropriate survey window for this species (year-round). Furthermore, only one record (from 2001) is located within the 10 km search area. This record is located > 8 km from the subject site). As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey, and the lack of records within the 8 km of the subject site, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

<i>Cyperus conicus</i>		This species grows in open woodland on sandy soil. Recorded from <i>Callitris</i> forest in the Pilliga area with <i>Cyperus gracilis</i> , <i>C. squarrosus</i> and <i>C. fulvus</i> . Often associated with other sedge species including <i>C. victoriensis</i> , <i>C. difformis</i> , <i>C. iria</i> , <i>C. compressus</i> , <i>C. nervulosus</i> , <i>C. dactylotes</i> , <i>Fimbristylis</i> and <i>Eleocharis species</i> . Only a single <i>Cyperus</i> species (<i>C. gunnii subsp. gunnii</i>) was detected during the field survey and no records of <i>C. conicus</i> occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of records within the 10 km search area and the absence of associated <i>Cyperus</i> species, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Dichanthium setosum</i>	Bluegrass	Associated with heavy basaltic black soils and red-brown loams with clay subsoil, often in disturbed areas including roadside vegetation. Only a single historic record from 1885 occurs within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is not associated with any PCTs within the subject site. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of records within the 10 km search area since 1885, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

<i>Diuris tricolor</i>	Pine Donkey Orchid	The Pine Donkey Orchid is strongly associated with <i>Callitris glaucophylla</i> , <i>Eucalyptus populnea</i> , <i>E. intertexta</i> and ironbark woodlands. Associated vegetation is present within the subject site. As the survey was conducted outside of the flowering season (September to October) the inability to detect the species cannot be used as confirmation of its absence. However, considering only a single record occurs within the 10 km search area (> 1.4 km from the subject site) and only 0.60 ha of potential habitat would be impacted, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the low number of records within the 10 km search area and the small area of potential habitat (0.60 ha), the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Lepidium aschersonii</i>	Spiny Peppercress	The Spiny Peppercress grows on the ridges of gilgai clays dominated by Brigalow, Belah, Buloke and Grey Box. The subject site does not contain gilgai clays. Furthermore, of the 34 records within the 10 km search area, all are located > 3.3 km from the subject site. Additionally, eleven of these records are located within the Brigalow Nature Reserve or State Conservation Area. Considering the above, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is not associated with any PCTs within the subject site. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of gilgai clays within the subject site, the lack of records within 3.3 km, and the presence of records within protected areas, the subject site is unlikely to	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

				be of importance to the long-term survival of this species.			
<i>Lepidium monoplocoides</i>	Winged Peppergrass	This species 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 <i>Allocasuarina leuhmannii</i> (Bulloak) and/or eucalypts, particularly <i>Eucalyptus largiflorens</i> (Black Box) or <i>Eucalyptus populnea</i> (Poplar Box). The associated Bulloak was detected during the field survey. In total, 141 records of this species occur within the 10 km search area. Of these, 48 occur within the 1.5 km study area, mostly within areas containing evidence of periodic waterlogging (depressions in landscape and standing water seen on aerial imagery). Considering the large number of records within the search area and the small area of potential habitat within the subject site (0.60 ha), the proposal is unlikely to place the local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the large number of records within the search area and the small area of potential habitat within the subject site (0.60 ha), the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Myriophyllum implicatum</i>		This species occurs in moist situations, extending away from fresh water. The recently discovered population is found in a large open partly inundated gilgai depression on cracking clay soil. The subject site does not contain naturally moist habitat and is therefore unlikely to contain a population of this species.	N/A	i. This species is not associated with any PCTs within the subject site. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	Provided mitigation measures outlined in Section 7 are adhered to, no significant impact will arise to the local

		However, the indirect impacts associated with the project (wastewater irrigation) could potentially impact this species if a population were to occur in the wetland area nearby. During the field survey, habitat located approximately 28 m from the proposed wastewater irrigation area was identified as PCT 461 – Pilliga tank gilgai wetland sedgeland rushland, Brigalow Belt South Bioregion, which represents potential habitat for the species (Figure 5-1). <i>Myriophyllum implicatum</i> could not be surveyed during the field survey conducted in June, as this falls outside the appropriate survey window for the species (October – February). Of particular concern is that the area outlined for the irrigation of treated water is located approximately 28 m from this wetland habitat, and it is unclear how the constituents of the treated water may impact a population of <i>Myriophyllum implicatum</i>, if one were to be present. As such, it is recommended that a targeted survey for the species be undertaken during the appropriate survey window (October – February) to determine presence or absence within the nearby wetland habitat. If the species is not	adjacent to existing infrastructure, no areas of habitat will become isolated. iii. The subject site is unlikely to be important to the long-term survival of the species as no wetland habitats are present. However, the wetland habitat which occurs 28 m from the proposed irrigation zone may be of importance to the long-term survival of this species.			viability of this species or its habitat due to the undertaking of the proposal.
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		detected, no further mitigation measures relating to <i>Myriophyllum implicatum</i> are required. However, if the species is detected within the wetland, a monitoring program should be implemented to determine whether the species is being adversely impacted by the treated water irrigation activities. See Section 7 for greater detail of these mitigation measures.					
<i>Polygala linariifolia</i>	Native Milkwort	This species occurs in sandy soils in dry eucalypt forest and woodland with a sparse understorey. Only one record occurs within the 10 km search area. This record is located > 8 km from the subject site. Considering the above and the small area of potential habitat within the subject site (0.60 ha), the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the low number of records within the 10 km search area and the small area of potential habitat within the subject site (0.60 ha), the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Pomaderris queenslandica</i>	Scant Pomaderris	This species is found in moist eucalypt forests and sheltered woodlands with a shrubby understorey. The species was not detected during the field survey,	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal.	No, AOBV not present within or close to the	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its

		which was conducted during the appropriate survey window for this species (year-round). Furthermore, no records occur within the 10 km search area. As such, the proposal is unlikely to place a local population at risk of extinction.		ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the inability to detect the species during the field survey and the lack of records within the 10 km search area, the subject site is unlikely to be of importance to the long-term survival of this species.	subject site.		habitat due to the undertaking of the proposal.
<i>Pterostylis cobarensis</i>	Greenhood Orchid	Habitats are eucalypt woodlands, open mallee or <i>Callitris</i> shrublands on low stony ridges and slopes in skeletal sandy-loam soils. Associated species include <i>Eucalyptus morrisii</i> , <i>E. viridis</i> , <i>E. intertexta</i> , <i>E. vicina</i> , <i>Callitris glaucophylla</i> , <i>Geijera parviflora</i> , <i>Casuarina cristata</i> , <i>Acacia doratoxylon</i> , <i>Senna spp.</i> and <i>Eremophila spp.</i> This species flowers from September to November. The associated <i>C. glaucophylla</i> occurs within the subject site. As the survey was conducted outside of the flowering season (September to November) the inability to detect the species cannot be used as confirmation of its absence. However, considering only a single record occurs within the study area (> 1.4 km from the subject site), a further 4 records	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the low number of records within the 10 km search area and the small area of potential habitat within the subject site (0.60 ha), the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		occur within the wide search area, and only a small area of potential habitat would be impacted (0.60 ha), the proposal is unlikely to place a local population at risk of extinction.					
<i>Swainsona murrayana</i>	Slender Darling Pea	This species 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 <i>Maireana</i> species. 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. Only a single historic record of this species from 1886 occurs within the 10 km search area. Considering the above, and the lack of associated PCTs within the subject site, the proposal is unlikely to place a local population at risk of extinction.	N/A	i. This species is not associated with any PCTs within the subject site. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the lack of records within the 10 km search area since 1886, and the lack of associated PCTs, the subject site is unlikely to be of importance to the long-term survival of this species.	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.
<i>Tylophora linearis</i>		Growing in low-altitude sedimentary flats in dry scrub and open forests, this species is typically found in association with <i>Acacia haeoides</i> , <i>A. lineata</i> , <i>Melaleuca uncinata</i> , and various <i>Casuarina</i> and <i>Myoporum</i> species. Only one associated species (<i>Myoporum montanum</i>) was recorded during the field survey. A single <i>Tylophora linearis</i> record occurs within the 10 km search area, approximately 345 m south of the subject site. However, considering the small area of	N/A	i. This species is associated with PCT 411 within the subject site. Consequently, up to 0.60 ha of associated PCT for this species will be removed or modified because of this proposal. ii. The subject site occurs on the edge of a remnant woodland patch in a heavily cleared landscape. The proposal will further exacerbate fragmentation within the landscape; however, as the subject site is located on the edge of a woodland patch	No, AOBV not present within or close to the subject site.	Yes. See Appendix F	No significant impact will arise to the local viability of this species or its habitat due to the undertaking of the proposal.

		potential habitat within the subject site (0.60 ha) and the far greater area of similar habitat which will remain within the study area (>150 ha), the proposal is unlikely to place a local population at risk of extinction.		adjacent to existing infrastructure, no areas of habitat will become isolated. iii. Considering the small area of potential habitat within the subject site (0.60 ha) and the far greater area of similar habitat that would remain within the study area (>150 ha), the subject site is unlikely to be of importance to the long-term survival of this species.			
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APPENDIX E – MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

The EPBC Act protects nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as matters of national environmental significance. The EPBC Act policy Matters of National Environmental Significance: Significant Impact Guidelines 1.1 (DoE, 2013) forms the basis of determining if impact to protected matters is significant.

A Protected Matters Search identified three Wetlands of International Importance, seven threatened ecological communities, 30 threatened species, eight migratory species, and 16 marine species as potentially occurring within 10 km of the subject site.

The following tables give an overview of the assessments of these threatened entities and shows that the Proposed activity:

1. Is not likely to have a significant impact on a matter of national environmental significance. The matters of national environmental significance are:
 - i. World heritage properties.
 - ii. National heritage places.
 - iii. Wetlands of international importance.
 - iv. Threatened species and ecological communities.
 - v. Migratory species.
 - vi. Commonwealth marine areas.
 - vii. The Great Barrier Reef Marine Park. And;
 - viii. Nuclear actions (including uranium mines).
 - ix. A water resource, in relation to coal seam gas development and large coal mining development.
2. Is not likely to have a significant impact on the environment in general (for actions by Commonwealth agencies or actions on Commonwealth land) or the environment on Commonwealth land (for actions outside Commonwealth land).

Notes:

Important Population as determined by the *Environment Protection and Biodiversity Conservation Act 1999*, is one that for a vulnerable species:

- a) is likely to be key source populations either for breeding or dispersal
- b) is likely to be necessary for maintaining genetic diversity
- c) is at or near the limit of the species range.

A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity (DoE, 2013).

Wetlands of International Importance

Name	Proximity	Assessment of significance required (Yes / No)
Banrock station wetland complex	900 – 1000 km upstream	No, the proposal does not occur close to the wetland.
Riverland	900 – 1000 km upstream	No, the proposal does not occur close to the wetland.
The Coorong, and Lakes Alexandrina and Albert Wetland	1100 – 1200 km upstream	No, the proposal does not occur close to the wetland.

Listed Threatened Ecological Communities

Name	Status	Assessment of significance required (Yes / No)
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant)	Endangered	No, this community does not occur within the subject site.
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	No, this community does not occur within the subject site.
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	No, this community does not occur within the subject site.
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	No, this community does not occur within the subject site.
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	No, this community does not occur within the subject site.
Weeping Myall Woodlands	Endangered	No, this community does not occur within the subject site.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	No, this community does not occur within the subject site.

EPBC Act-listed Critically Endangered and Endangered Species

<i>Lathamus discolor</i> – Swift Parrot	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of a population	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. This species' life cycle revolves around the seasonal migration between the Australian mainland and Tasmania. As breeding habitat occurs exclusively in Tasmania, only marginal foraging habitat would be impacted by the proposal. Furthermore, the species was not detected during the field survey and no records occur within the 10 km search area. As such, this proposal is unlikely to lead to the long-term decrease of any population of this species.
Reduce the area of occupancy of the species	As indicated above it is unlikely that an established population exists at the site. Therefore, the current area of occupancy will not likely be significantly reduced.
Fragment an existing population into two or more populations	As indicated above it is unlikely that an established population exists at the site. This proposal is not expected to result in any additional fragmentation for this species.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival for the Swift Parrot includes breeding and foraging habitat in Tasmania, and foraging habitat on the Australian mainland. All preferred foraging species within known and likely foraging habitat on the mainland including Yellow Gum (<i>E. leucoxylon</i>); Red Ironbark (<i>E. tricarpa</i>); Mugga Ironbark (<i>E. sideroxylon</i>); Grey Box (<i>E. microcarpa</i>); White Box (<i>E. albens</i>); Yellow Box (<i>E. melliodora</i>); Swamp Mahogany (<i>E. robusta</i>); Forest Red Gum (<i>E. tereticornis</i>); Blackbutt (<i>E. pilularis</i>); and Spotted Gum (<i>Corymbia maculata</i>). None of these species were recorded within the subject site. Considering the above, and the absence of Swift Parrot records within 10 km, it is unlikely that the subject site is critical habitat for this species.
Disrupt the breeding cycle of a population	Considering this species breeds exclusively in Tasmania, this proposal would not disrupt the breeding cycle for any population of this species.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Habitat loss and fragmentation from forest harvesting, residential/ industrial development, agricultural clearing, senescence and dieback are the main threats to the species. Although this proposal will exacerbate the impacts of habitat loss, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

<i>Lophochroa leadbeateri</i> – Pink Cockatoo	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of a population	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. This species breeds in large hollows in dry woodlands in arid and semi-arid environments. The species was not detected during the field survey and no records occur within the 10 km search area. Furthermore, no tree hollows occur within the subject site. As such, this proposal is unlikely to lead to the long-term decrease of any population of this species.
Reduce the area of occupancy of the species	As indicated above it is unlikely that an established population exists at the site. Therefore, the current area of occupancy will not likely be significantly reduced.
Fragment an existing population into two or more populations	As indicated above it is unlikely that an established population exists at the site. This proposal is not expected to result in any additional fragmentation for this species.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the Pink Cockatoo consist of: • Arid and semi-arid woodlands dominated by mulga (<i>Acacia aneura</i>), mallee and box eucalypts, slender cypress pine (<i>Callitris gracilis</i>) or belah (<i>Casuarina cristata</i>). • Known habitat containing suitable attributes, especially where there are large mature trees with suitable hollows; and • Surrounding matrix of these areas for the role of providing movement corridors for dispersal across the landscape. Arid and semi-arid woodlands occur within the subject site. However, no hollow-bearing trees are present, and no Pink Cockatoo records occur within 10 km. As such, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of a population	No hollow-bearing trees occur within the subject site. As such, this proposal will not disrupt the breeding cycle for any population of this species.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Clearing of woodlands, heavy grazing of feeding areas resulting in the removal of seeding grasses and preventing regeneration of food plants, loss of existing and future hollow-bearing trees, and illegal nest-robbing and trapping are the main threats to this species. Although this proposal would exacerbate the impacts of habitat loss, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Melanodryas cucullata cucullata* – South-eastern Hooded Robin**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of a population	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses. While the habitat within the subject site contains moderate structural diversity, the South-eastern Hooded Robin was not detected during the field survey and no records occur within the 10 km search area. As such, this proposal is unlikely to lead to the long-term decrease of any population of this species.
Reduce the area of occupancy of the species	As indicated above it is unlikely that an established population exists at the site. Therefore, the current area of occupancy will not likely be significantly reduced.
Fragment an existing population into two or more populations	As indicated above it is unlikely that an established population exists at the site. This proposal is not expected to result in any additional fragmentation for this species.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the South-eastern Hooded Robin include areas of dry eucalypt and acacia woodlands and shrublands remnants with an open understorey, some grassy areas and a complex ground layer, often in or near clearings or open areas; structurally diverse habitats featuring: mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses; standing dead or live trees and tree stumps are also essential for nesting, roosting and foraging; and moderately deep to deep soils, rocks and fallen timber which provides essential foraging habitat. While the habitat within the subject site contains moderate structural diversity, the South-eastern Hooded Robin was not detected during the field survey and no records occur within the 10 km search area. As such, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of a population	As indicated above it is unlikely that an established population exists at the site. Therefore, the proposal would not disrupt the breeding cycle of a population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Clearing of woodlands, loss and fragmentation of habitat, modification/destruction of ground habitat from stock, removal of fallen timber, introduction of exotic pasture grasses and habitat loss and degradation are the main threats to the species. Although this proposal would exacerbate the impacts of habitat loss, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.

Conclusion	No significant impact
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<i>Phascolarctos cinereus</i> - Koala	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of a population	The proposal would impact up to 0.60 ha of associated PCT for this species. The subject site occurs within the Western Slopes and Plains Koala Management Area. Therefore, one 'significant use' tree species (<i>Callitris glaucophylla</i>) and two 'occasional use' tree species (<i>Eucalyptus crebra</i> and <i>E. pilligaensis</i>) occur within or adjacent to the subject site. However, Considering the prior disturbance within the broader landscape, the subject site represents poor koala habitat. Furthermore, the species was not detected during the field survey and only four records occur within the 10 km search area. Of these records, three are > 32 years old. The most recent record (from 2018) is located > 8.3 km south of the subject site in an area containing a large patch of remnant woodland with greater connectivity. As such, this proposal is unlikely to lead to the long-term decrease of any population of this species.
Reduce the area of occupancy of the species	As indicated above it is unlikely that an established population exists at the site. Therefore, the current area of occupancy will not likely be significantly reduced.
Fragment an existing population into two or more populations	As indicated above it is unlikely that an established population exists at the site. This proposal is not expected to result in any additional fragmentation for this species.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the Koala include any habitat used by Koalas for feeding, resting, dispersing, and refuge during extreme events (e.g., heatwaves, drought, fires, and floods). Considering the woodland patch which encompasses the subject site is largely isolated from other larger habitat patches, and the most recent record (from 2018) is located > 8.3 km south of the subject site, it is unlikely that the subject site contains habitat critical to the survival of the species.
Disrupt the breeding cycle of a population	As indicated above it is unlikely that an established population exists at the site. Therefore, the proposal would not disrupt the breeding cycle of a population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Loss, modification and fragmentation of habitat, vehicle strike, predation by dogs, intense wildfires and droughts are the key threats to this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, it is not ideal habitat for this species and this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

<i>Hemiaspis damelii</i> – Grey Snake	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of a population	This species is not associated with any PCTs within the subject site. Furthermore, the subject site is not within a priority management area for the species. habitat includes the margins of ephemeral wetlands within River Red Gum (<i>Eucalyptus camaldulensis</i>) and Black Box (<i>E. largiflorens</i>) vegetation communities and Tangled Lignum (<i>Duma florulenta</i>) swamps. The species shelters in soil cracks, rocks, logs, flood debris, and abandoned burrows within these habitats. The subject site does not occur within an ephemeral wetland or floodplain and associated vegetation is absent. Furthermore, only two records of this species (from 1978 and 2001) occur within the 10 km search area. Both records are located > 7.6 km from the subject site. As such, this proposal is unlikely to lead to the long-term decrease of any population of this species.
Reduce the area of occupancy of the species	As indicated above it is unlikely that an established population exists at the site. Therefore, the current area of occupancy will not likely be significantly reduced.
Fragment an existing population into two or more populations	As indicated above it is unlikely that an established population exists at the site. This proposal is not expected to result in any additional fragmentation for this species.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the subject site does not occur within an ephemeral wetland or floodplain, associated vegetation is absent, and only two records of this species (from 1978 and 2001) occur within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of a population	As indicated above it is unlikely that an established population exists at the site. Therefore, the proposal would not disrupt the breeding cycle of a population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify any area of associated PCT for the species. The removal of 0.60 ha of native vegetation is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There is the potential for works to introduce invasive species to the subject site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Stochastic extinction, alteration to the natural flow regimes of floodplains and wetlands caused by water extraction and river regulation, habitat loss and fragmentation due to development and agricultural activities, introduced species (e.g., pigs, cats, foxes), and prolonged drought are the main threats for this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of native vegetation, it is not ideal habitat for this species and should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Lepidium monoplacoides* – Winged Peppergrass**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of a population	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. This species 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 <i>Allocasuarina luehmannii</i> (Bulloak) and/or eucalypts, particularly <i>Eucalyptus largiflorens</i> (Black Box) or <i>Eucalyptus populnea</i> (Poplar Box). The associated Bulloak was detected during the field survey. In total, 141 records of this species occur within the 10 km search area. Of these, 48 occur within the 1.5 km study area, mostly within areas containing evidence of periodic waterlogging (depressions in landscape and standing water seen on aerial imagery). Considering the large number of records within the search area and the small area of potential habitat within the subject site (0.60 ha), the proposal is unlikely to lead to the long-term decrease of any population of this species.
Reduce the area of occupancy of the species	The proposal would reduce the current area of occupancy by up to 0.60 ha.
Fragment an existing population into two or more populations	Considering the small area of potential habitat within the subject site (0.60 ha) and the large number of records of this species within the study area (n=48), the proposal is not expected to fragment the existing population into two or more populations.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, the Winged Peppergrass occurs in open, sparsely vegetated sites in a range of habitats on heavy clay or clay-loam soils, usually on sites that are seasonally flooded or prone to waterlogging. The habitat within the subject site is not a strong match for the above description as it is relatively densely vegetated (compared to the nearby areas containing records of this species). As such, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of a population	Considering the small area of the subject site which lacks ideal habitat conditions, the proposal is unlikely to disrupt the breeding cycle of a population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There is the potential for works to introduce invasive species to the subject site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Agricultural development, habitat removal, and grazing are the main threats for this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, it is not ideal habitat and this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

EPBC Act-listed Vulnerable Species

<i>Aphelocephala leucopsis</i> - Southern Whiteface	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species, nor is it at the edge of the species' distribution. Southern whitefaces live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. Birds build large bulky domed nest of grass, bark and roots, usually in a hollow or crevice, although sometimes in low bushes. The species was not detected during the field survey and no records occur within the 10 km search area. Furthermore, no hollow-bearing trees are present within the subject site. As such, the proposal is unlikely to lead to a long-term decrease in the size of any population of this species. Furthermore, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Reduce the area of occupancy of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Fragment an existing important population into two or more populations	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the Southern Whiteface includes areas of: - relatively undisturbed open woodlands and shrublands with an understorey of grasses or shrubs, or both; - habitat with low tree densities and an herbaceous understory litter cover which provides essential foraging habitat; - living and dead trees with hollows and crevices which are essential for roosting and nesting. Considering the species was not detected during the field survey, no records occur within the 10 km search area, and no hollow-bearing trees are present within the subject site, it is not considered habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	habitat loss, degradation, fragmentation and removal, climate change, predation from invasive species, invasive weeds, firewood collection and competition with noisy miners (<i>Manorina melanocephala</i>) are the main threats for this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of

	associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Calyptorhynchus lathami lathami* - South-eastern Glossy Black-Cockatoo**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species, nor is it at the edge of the species' distribution. This species feeds almost exclusively on the seeds of several species of she-oak and relies on large hollows within eucalypt trees for breeding. Although the South-eastern Glossy Black-Cockatoo was not detected during the field survey, six records of this species occur within the 10 km search area and one potential feed tree species (<i>Allocasuarina luehmannii</i>) occurs within the subject site. However, the South-eastern Glossy Black-Cockatoo has not been recorded within the 10 km search area since 2018 and no suitable breeding trees or were detected within the subject site. Furthermore, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Reduce the area of occupancy of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Fragment an existing important population into two or more populations	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the South-eastern Glossy Black-Cockatoo include any habitat used by the species for foraging, breeding, roosting, or dispersal. Considering the site lacks breeding trees and no South-eastern Glossy Black-Cockatoo have been recorded within the 10 km search area since 2018, it is unlikely that the subject site contains habitat critical to the survival of a species.
Disrupt the breeding cycle of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Reduction of suitable habitat through clearing for development, decline of hollow bearing trees over time due to land management activities, excessively frequent fire and/or predation by feral herbivores which eliminates sheoaks from areas, and reduced access to surface water in close proximity to foraging and nesting habitat are the main threats facing this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Climacteris picumnus victoriae* - Brown Treecreeper (eastern subspecies)**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. Usually not found in woodlands with a dense shrub layer. Fallen timber is an important habitat component for foraging. Hollows in standing dead or live trees and tree stumps are essential for nesting. The species was not detected during the field survey and no records occur within the 10 km search area. Furthermore, no hollow-bearing trees occur within the subject site. As such, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the Brown Treecreeper (eastern subspecies) includes areas that have a relatively undisturbed grassy woodland with native understorey; large living or dead trees and stumps with hollows which are essential for roosting and nesting sites; and fallen timber which provides essential foraging habitat. Considering the lack of tree hollows within the subject site and Brown Treecreeper (eastern subspecies) records within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Historical loss of woodland, forest and mallee habitats as a result of agriculture, forestry, mining and residential development; fragmentation of woodland and forest remnants which isolates populations and causes local extinctions; ongoing degradation of habitat, particularly the loss of tree hollows and fallen timber from firewood collection; and the lack of regeneration of eucalypt overstorey in woodland due to overgrazing and too-frequent fires are the main threats facing this species. Although this proposal will exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.

Conclusion	No significant impact
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***Grantiella picta* – Painted Honeyeater**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species, nor is it at the edge of the species' distribution. This species is a specialist feeder on the fruits of mistletoes. No evidence of the species and no mistletoe were detected during the field survey. Furthermore, no Painted Honeyeater records occur within the 10 km search area. As such, the subject site is unlikely to contain a population of this species. Furthermore, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Reduce the area of occupancy of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Fragment an existing important population into two or more populations	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the Painted Honeyeater includes: - Known or likely breeding habitat in Boree/Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) woodlands, box-gum woodlands and box-ironbark forests on the inland slopes of the Great Dividing Range in New South Wales, Victoria and southern Queensland. - All preferred foraging species within known and likely foraging habitat particularly mistletoes of the genus <i>Amyema</i> growing on forest and woodland eucalypts and acacias. Considering the Painted Honeyeater and mistletoe species were not recorded during the field survey, and no Painted Honeyeater records within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Clearing of woodlands and open forests, removal of trees with mistletoe infestations, degradation of open forest and woodland remnants, weed infestation, increase of noisy minor populations and inappropriate fire regimes are the key threats to this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Hirundapus caudacutus* – White-throated Needletail**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal will impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species, nor is it at the edge of the species' distribution. The species is almost exclusively aerial, making direct habitat associations difficult to determine. While some vegetation associated with the species occurs within the subject site, its suitability remains uncertain due to the species' specific ecological requirements. The species is more common in coastal areas, less so inland. As this species breeds exclusively outside of Australia, and they prefer coastal ecosystems, the subject site is unlikely to be important to the lifecycle of the species. Furthermore, only two records of this species (both > 8.2 km from the subject site) occur within the 10 km search area. Considering the above it is highly unlikely that a population is dependent on the subject site. Furthermore, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Reduce the area of occupancy of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Fragment an existing important population into two or more populations	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, as this species breeds exclusively outside of Australia, and they prefer coastal ecosystems, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	No, this species breeds in forests in south-eastern Siberia, Mongolia, the Korean Peninsula and northern Japan from June-August.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	With this species being almost exclusively aerial, it is unlikely that the proposal will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Aerial collision with wires, windows and lighthouses are the biggest threats for this species while it resides in Australia. Though the reduction in invertebrate prey due to the loss of woodland habitat is also a threat. It is unlikely that the proposal will interfere with the recovery of this species.
Conclusion	No significant impact

***Polytelis swainsonii* – Superb Parrot**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. The Superb Parrot inhabits Box-Gum, Box-Cypress-pine, and River Red Gum forests. Nesting occurs within small hollows, generally at least 8 cm in diameter. No hollow-bearing trees occur within the subject site. Furthermore, the species was not detected during the field survey and only one record (from 2001) occurs within the 10 km search area. As such, the proposal is unlikely to lead to a long-term decrease in the size of an important population of a species
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	The habitat critical to the survival of the Superb Parrot can be divided into breeding and foraging habitat, as described below: The Superb Parrot usually nests in hollow limbs or holes in the trunk of large eucalypts. Across its range, the Superb Parrot uses two distinct habitat types for breeding: riverine forests in the Riverina, and box-gum woodlands in the tablelands and slopes. In the Riverina of Victoria and New South Wales, Superb Parrots nest in loose colonies along the Murrumbidgee, Edward and Murray Rivers in areas of mature River Red Gum <i>Eucalyptus camaldulensis</i> forest. Forests and woodlands used for nesting on the inland slopes and tablelands comprise at least six species of <i>Eucalyptus</i> including River Red Gum, Blakely's Red Gum <i>E. blakelyi</i>, Apple Box <i>E. bridgesiana</i>, Grey Box <i>E. microcarpa</i>, White Box <i>E. albens</i> and Red Box <i>E. polyanthemos</i>. After breeding, Superb Parrots generally move away from their breeding habitat in mid-January. Superb Parrots' foraging habitats vary throughout the year. After the breeding season, which ends in mid-January, some birds move to Boree <i>Acacia pendula</i> woodlands between the Murrumbidgee and Murray Rivers. However, the precise distribution and habitat use of others during mid-January to early April is not well documented. From April to August, they inhabit River Red Gum forests and box-pine woodlands in north-central NSW and similar habitats in the Riverina region. Between May and August, they return to riverine forests and nearby woodlands, forming large flocks of adults and immature birds that roam extensively for food. During winter, they are rarely found on the inland slopes, with sightings mostly limited to breeding pairs. The majority of the breeding population shifts to eucalypt-pine woodlands in west-central and north-central NSW. Considering the primary feed and breeding tree species are absent from the subject site, no hollow-bearing trees are present, the species was not detected during the field survey, and only one record (from 2001) occurs within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above. Furthermore, no hollow-bearing trees occur within the subject site.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Loss or degradation of habitat, loss of or competition for hollows, road kills, illegal collection of wild birds, psittacine beak and feather disease, and climate change are the main identified threats to this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Stagonopleura guttata* – Diamond Firetail**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species, nor is it at the edge of the species' distribution. Found in grassy eucalypt woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Birds roost in dense shrubs or in smaller nests built especially for roosting. Appears to be sedentary, though some populations move locally, especially those in the south. This species was not detected during the field survey and only one record occurs within the 10 km search area. This single record is located > 8 km from the subject site. As such, the subject site is unlikely to contain a population of this species. Furthermore, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Reduce the area of occupancy of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Fragment an existing important population into two or more populations	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the diamond firetail includes areas of eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats; low tree density, few large logs, and little litter cover but high grass cover for foraging, roosting and breeding; and Drooping She-oak (<i>Allocasuarina verticillata</i>) within the Mt Lofty Ranges. The subject site contains low native grass cover, and the species has not been recorded within 8 km of the subject site. As such, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Clearing and fragmentation of woodland, open forest, grassland and mallee habitat for agriculture and residential development, and firewood collection; poor regeneration of open forest and woodland habitats; and the invasion of weeds, resulting in the loss of important food plants are the main threats facing this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Nyctophilus corbeni* – Corben's Long-eared Bat**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur near the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. This species roost mainly in tree hollows but will also roost under bark or in man-made structures. No hollow-bearing trees occur within the subject site. Furthermore, no records of this species occur within the 10 km search area. As such, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the lack of records within the 10 km search area and the absence of hollow-bearing trees within the subject site, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above. Furthermore, no hollow-bearing trees occur within the subject site.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Loss of remnant semi-arid woodland and mallee habitat, loss of hollow bearing trees, application of pesticides, inappropriate fire regimes, disturbance of breeding sites and winter roosting and loss of habitat are the biggest threats to this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Pseudomys pilligaensis* – Pilliga Mouse**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. Inconsistently described as favouring areas with sparse groundcover, broombush shrublands, areas with a moderate to high density of low shrubs, and sites with a dense cover of grasses and sedges with few shrubs. Considering this uncertainty, the subject site cannot be ruled out on the basis of habitat limitations. The subject site may be suitable for use by this species. However, no records of the species are known within the 10 km search area. As such, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the lack of records within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Logging operations in areas containing key habitat elements, inappropriate level of Broombush harvesting, inappropriate fire regimes, predation - by feral predators (fox, cat and pig), and competition from feral House Mouse populations are the main threats to this species. The proposal is unlikely to interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Pteropus poliocephalus* – Grey-headed Flying-fox**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. The species resides within large roosting camps, generally located within 20 km of a regular food source. The nearest roost camp is approximately 90 km east of the subject site, at Barraba. When the camp was last active in 2022, it consisted of approximately 215 individuals (as per the National Flying-fox Monitor). Given the distance between the site and the nearest camp, if individuals were to appear, this would suggest usage of the habitat for transient foraging purposes. A single record of this species occurs at the edge of the 10 km search area. Considering the above, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Important winter and spring vegetation communities are those that contain <i>Eucalyptus tereticornis</i>, <i>E. albens</i>, <i>E. crebra</i>, <i>E. fibrosa</i>, <i>E. melliodora</i>, <i>E. paniculata</i>, <i>E. pilularis</i>, <i>E. robusta</i>, <i>E. seeana</i>, <i>E. sideroxylon</i>, <i>E. siderophloia</i>, <i>Banksia integrifolia</i>, <i>Castanospermum australe</i>, <i>Corymbia citriodora citriodora</i>, <i>C. eximia</i>, <i>C. maculata</i>, <i>Grevillea robusta</i>, <i>Melaleuca quinquenervia</i> or <i>Syncarpia glomulifera</i>. Habitat critical to the survival of the Grey-headed Flying-fox may also be vegetation communities not containing the above tree species but which: • contain native species that are known to be productive as foraging habitat during the final weeks of gestation, and during the weeks of birth, lactation and conception (August to May) • contain native species used for foraging and occur within 20 km of a nationally important camp as identified on the Department's interactive flying-fox web viewer, or • contain native and or exotic species used for roosting at the site of a nationally important Grey-Headed Flying-Fox camp¹ as identified on the Department's interactive flying-fox web viewer. Considering the nearest roost camp is approximately 90 km to the northeast of the subject site, in Barraba, no important winter and spring vegetation is present, and only one record of the Grey-headed Flying-fox occurs within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	No. The nearest known roost camp is located approximately 90 km from the subject site.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).

Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Loss of roosts and foraging sites, electrocution on powerlines, illegal shooting, conflict with humans and heat stress are the key threats to this species. Although this proposal will exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

Anomalopus mackayi – Five-clawed Worm-skink

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	This species is not associated with any PCTs within the subject site. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. This species occurs close to or on the lower slopes of slight rises in grassy White Box woodland on moist black soils, and River Red Gum-Coolibah-Bimble Box woodland on deep cracking loose clay soils. May also occur in grassland areas and open paddocks with scattered trees. They live in permanent deep tunnel-like burrows and deep soil cracks, coming close to the surface under fallen timber and litter, especially partially buried logs. One record of this species (from 2015) occurs within the 10 km search area. This record is located > 8.7 km from the subject site. Considering the above, and the lack of associated PCTs, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the lack of records within the 8.7 km of the subject site and the lack of associated PCTs, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify any area of associated PCT for the species. The removal of 0.60 ha of native vegetation is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Clearing and fragmentation of habitat for agriculture and development, trampling of habitat by domestic stock, disturbance of soil structure through cropping, removal of fallen timber for firewood, invasion of habitat by introduced weeds such as Coolatai Grass, and insufficient understanding of distribution and abundance are the main threats to the species. Although this proposal will exacerbate the loss of potential habitat, due to the clearing/modifying of up to 0.60 ha of native vegetation, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

<i>Androcalva procumbens</i>	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. Endemic to NSW, this species grows primarily in the Dubbo-Mendooran-Gilgandra region in association with <i>Eucalyptus dealbata</i> and <i>E. sideroxylon</i> communities. These communities are not present within the subject site. Furthermore, no <i>A. procumbens</i> records occur within the 10 km search area. As such, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the lack of records within the 10 km search area, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Lack of fire or fire suppression, woody shrub competition (particularly thick stands of <i>Acacia triptera</i>), invasive grasses, and continued grading of roads and roadsides are the main threats to this species. The proposal is unlikely to interfere with the recovery of the species within the region.
Conclusion	No significant impact

Bertya opposens – Coolabah Bertya

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. Coolabah Bertya occurs in a range of habitats including stony mallee ridges and cypress pine forest on red soils. The disturbance agents of fire and mechanical disturbance appear to trigger germination and/or suckering in Coolabah Bertya. The most appropriate time interval between disturbance events is not known. The species was not detected during the field survey, which was conducted during the appropriate survey window for this species (year-round). Furthermore, only one record (from 2001) is located within the 10 km search area. This record is located > 8 km from the subject site). As such, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Coolabah Bertya occurs in a range of habitats including stony mallee ridges and cypress pine forest on red soils. The wide variation in habitat type between the populations makes the identification of critical habitat very difficult. Consideration of disturbance regimes and grazing management are probably more important to the survival of populations in the long term. However, considering the inability to detect the species during the field survey and the lack of records within 8 km, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Inappropriate fire regimes, clearing and fragmentation of habitat for agriculture, invasion of habitat by introduced weeds, browsing by feral goats, and road and fire trail construction and maintenance are the key threats to this species. Although this proposal would exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Dichanthium setosum* – Bluegrass**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	This species is not associated with any PCTs within the subject site. The subject site is not within a priority management area for the species. However, it does occur at the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. This species is often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. Only a single historic record from 1885 occurs within the 10 km search area. As such, the subject site is unlikely to contain a population of this species. Furthermore, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Reduce the area of occupancy of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Fragment an existing important population into two or more populations	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the lack of records within the 10 km search area since 1885, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	As indicated above, if a population were to occur within the subject site, it would not fit the definition of an important population under the EPBC Act.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify any area of associated PCT for the species. The removal of 0.60 ha of native vegetation is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Heavy grazing by domestic stock, clearing of habitat for pasture improvement and cropping, frequent fires, invasion by introduced grasses such as Coolatai and African Lovegrass and Phalaris, as well as ox-eye daisy, road widening, and inappropriate slashing regimes are the key threats to this species. The proposal is unlikely to interfere with the recovery of the species within the region.
Conclusion	No significant impact

***Lepidium aschersonii* – Spiny Peppercreess**

Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	This species is not associated with any PCTs within the subject site. The subject site is not within a priority management area for the species. However, it does occur near the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. Found on ridges of gilgai clays dominated by Brigalow (<i>Acacia harpophylla</i>), Belah (<i>Casuarina cristata</i>), Buloke (<i>Allocasuarina luehmanii</i>) and Grey Box (<i>Eucalyptus microcarpa</i>). The subject site does not contain gilgai clays. Furthermore, of the 34 records within the 10 km search area, all are located > 3.3 km from the subject site. Additionally, 11 of these records are located within the Brigalow Nature Reserve or State Conservation Area. Considering the above, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, the Spiny Peppercreess grows on the ridges of gilgai clays dominated by Brigalow, Belah, Buloke and Grey Box. Gilgai clays do not occur within the subject site. Furthermore, no records occur within the 3.3 km of the subject site and 11 of the records within the search area are located in protected areas. As such, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify any area of associated PCT for the species. The removal of 0.60 ha of native vegetation is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Invasion and spread of exotic grasses, overgrazing by domestic livestock, habitat fragmentation and loss due to land clearing, inappropriate application of pesticides, and altered hydrological regimes are the main threats to the species. Although this proposal will exacerbate the loss of potential habitat, due to the clearing/modifying of up to 0.60 ha of native vegetation, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

Swainsona murrayana – Slender Darling Pea

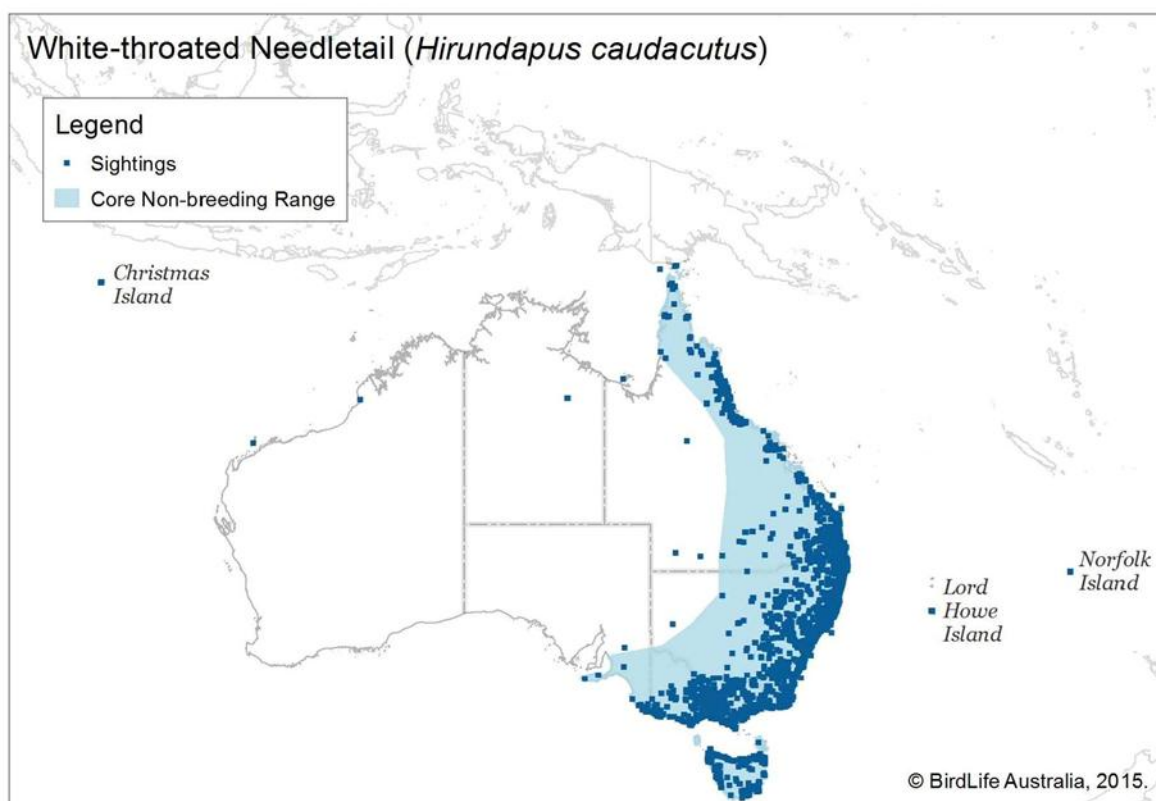
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	This species is not associated with any PCTs within the subject site. The subject site is not within a priority management area for the species. However, it does occur near the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. This species 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 <i>Maireana</i> species. Only a single historic record of this species from 1886 occurs within the 10 km search area. Considering the above, and the lack of associated PCTs within the subject site, the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	It is unlikely that an important population exists at the site, see above.
Fragment an existing important population into two or more populations	It is unlikely that an important population exists at the site, see above.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the lack of records within the 10 km search area since 1886, and the lack of associated PCTs, the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	It is unlikely that an important population exists at the site, see above.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify any area of associated PCT for the species. The removal of 0.60 ha of native vegetation is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	Heavy grazing; loss of grassland habitat to cultivation; and invasion of grassland habitat by weeds are the main threats to the species. The proposal alone is unlikely to directly interfere with the recovery of the species within the region.
Conclusion	No significant impact

<i>Tylophora linearis</i>	
Significant Impact Guideline	Assessment
Lead to a long-term decrease in the size of an important population of a species	The proposal would impact up to 0.60 ha of potential habitat for this species. The subject site is not within a priority management area for the species. However, it does occur near the edge of the species' known distribution. Therefore, if a population were to occur within the subject site, it would be considered an important population. Growing in low-altitude sedimentary flats in dry scrub and open forests, this species is typically found in association with <i>Acacia haeoides</i>, <i>A. lineata</i>, <i>Melaleuca uncinata</i>, and various <i>Casuarina</i> and <i>Myoporum</i> species. Only one associated species (<i>Myoporum montanum</i>) was recorded during the field survey. A single <i>Tylophora linearis</i> record occurs within the 10 km search area, approximately 345 m south of the subject site. However, considering the small area of potential habitat within the subject site (0.60 ha) and the far greater area of similar habitat which will remain within the study area (>150 ha), the subject site is unlikely to contain an important population of this species.
Reduce the area of occupancy of an important population	The proposal would reduce the current area of occupancy of the important population within the search area by 0.60 ha.
Fragment an existing important population into two or more populations	Considering the small area of potential habitat within the subject site (0.60 ha), the proposal is not expected to fragment an existing important population into two or more populations.
Adversely affect habitat critical to the survival of a species	Critical habitat for this species has not been formally identified. However, considering the small area of potential habitat within the subject site (0.60 ha) and the far greater area of similar habitat which will remain within the study area (>150 ha), the subject site is unlikely to contain habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	Considering the small area of potential habitat within the subject site (0.60 ha), the proposal is not expected to disrupt the breeding cycle of an important population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposal would remove/modify up to 0.60 ha of associated PCT for the species. The proposal will not isolate any habitat for this species. This removal/modification of available habitat is unlikely to cause the species to decline at a regional scale.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	There is the potential for works to introduce invasive species to the proposal site or exacerbate existing infestations of significant invasive species. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Introduce disease that may cause the species to decline	Machinery used on site can potentially act as a transport for biosecurity risks. Environmental safeguards for the management of biosecurity risks will be implemented (see Section 7).
Interfere with the recovery of the species.	General roadside maintenance; invasion by perennial grass; forest management and hazard reduction burns; habitat clearing; grazing and trampling by domesticated and feral animals; and a lack of knowledge of the species' ecology are the main threats for this species. Although this proposal will exacerbate the loss of habitat, due to the clearing/modifying of up to 0.60 ha of associated PCT, this should not significantly interfere with the recovery of the species within the region.
Conclusion	No significant impact

EPBC Act-listed Migratory Species

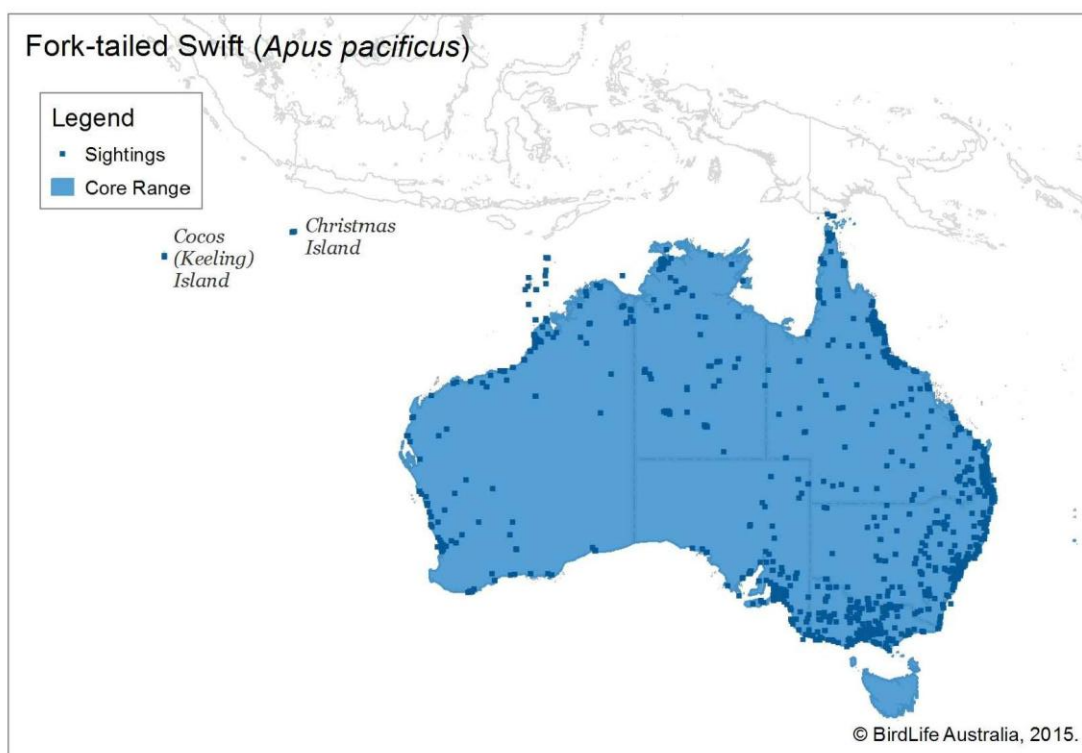
Hirundapus caudacutus - White-throated Needletail

Significant Impact Guideline	Assessment
Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	This species migrates to eastern Australia from October to April where they feed on insects aerially before storms and low-pressure troughs. The subject site occurs within the core non-breeding range of the White-throated Needletail (see figure below). As the species is very widely distributed, and as the subject site contains only a small area of potential foraging habitat, the proposal is unlikely to substantially modify, destroy or isolate any area of important habitat for this migratory species.
Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	The subject site does not contain important habitat for this species (Driessen et al. 2025).
Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	It is highly unlikely that an ecologically significant proportion of the population occurs within or is dependent on the proposal site. Furthermore, this species breeds in forests in south-eastern Siberia, Mongolia, the Korean Peninsula and northern Japan from June-August. As such, the proposal is unlikely to seriously disrupt the lifecycle for this species.
Conclusion	No significant impact



White-throated Needletail Core Non-breeding Range

<i>Apus pacificus</i> - Fork-tailed Swift	
Significant Impact Guideline	Assessment
Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	<i>Apus pacificus</i> breeds in East Asia, including Siberia, Japan, and China, during the northern hemisphere's summer. The birds are non-breeding migrants to Australia, arriving from October to January and leaving in April for their breeding grounds. The species is widespread throughout Australia with the entire country being mapped as within their "core range". (See figure below). Two records of this species occur within the search area, > 9.6 km from the subject site. As this species forages aerially and breeds outside of Australia, the proposal is unlikely to substantially modify, destroy or isolate any area of important habitat for this migratory species.
Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	The subject site does not contain important habitat for this species (Driessen et al. 2025).
Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	It is highly unlikely that an ecologically significant proportion of the population occurs within or is dependent on the subject site. Furthermore, this species breeds in forests in East Asia, including Siberia, Japan, and China, during the northern hemisphere's summer. As such, the proposal is unlikely to seriously disrupt the lifecycle for this species.
Conclusion	No significant impact



Fork-tailed Swift Core Range.

APPENDIX F – KEY THREATENING PROCESSES

Key Threatening Processes (KTP) predicted as acting on the study area that may be exacerbated by the proposal.

Name	NSW status	Comm status	Likelihood of Occurrence	Exacerbated by Proposal?
Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners, <i>Manorina melanocephala</i> (Latham, 1802)	KTP	KTP	Unlikely	Potentially Disturbance within woodland habitat may exacerbate this threat.
Alteration of habitat following subsidence due to longwall mining	KTP		Very unlikely	No The proposal does not include any activities that would exacerbate this threat.
Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands	KTP		Unlikely	Potentially The planned irrigation associated with this proposal may alter the natural flow regime of nearby watercourses.
Anthropogenic Climate Change	KTP	KTP	Very Likely	Yes Some unavoidable emissions will occur from construction and operation and removal of native vegetation will diminish the carbon storing capacity of the subject site.
Bushrock removal	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Clearing of native vegetation	KTP	KTP	Very Likely	Yes Up to 0.60 ha of native vegetation may be cleared by the current proposal.
Competition and grazing by the feral European Rabbit, <i>Oryctolagus cuniculus</i> (L.)	KTP	KTP	Unlikely	Potentially The spread of grassy weeds that may result from these works could encourage rabbit activity.
Competition and habitat degradation by Feral Goats, <i>Capra hircus</i> Linnaeus 1758	KTP	KTP	Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Competition from feral honey bees, <i>Apis mellifera</i> L.	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners	KTP		Unlikely	No The modification of woodland structure, for example by edge effects, is known to encourage occupancy by Bell Miners; however, this species is not known to occur nearby.
Habitat degradation and loss by Feral Horses (brumbies, wild horses), <i>Equus caballus</i> Linnaeus 1758	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.

Name	NSW status	Comm status	Likelihood of Occurrence	Exacerbated by Proposal?
Herbivory and environmental degradation caused by feral deer	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	KTP		Unlikely	No Fire frequency will not increase due to activities undertaken as part of the proposal. Implementation of the mitigation measures in Section 7 should reduce this risk.
Importation of Red Imported Fire Ants <i>Solenopsis invicta</i> Buren 1972	KTP	KTP	Unlikely	Potentially Machinery used on site can potentially act as a transport for biosecurity risks, however, this species is not known to occur nearby.
Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations	KTP	KTP	Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	KTP	KTP	Unlikely	Potentially Machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Infection of native plants by <i>Phytophthora cinnamomi</i>	KTP	KTP	Unlikely	Potentially Machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Introduction of the Large Earth Bumblebee <i>Bombus terrestris</i> (L.)	KTP		Unlikely	No This species only occurs in Tasmania. It is highly unlikely that the proposal will result in the importation of this species to the mainland.
Invasion and establishment of exotic vines and scramblers	KTP		Unlikely	Potentially Exotic vine species are likely to occur in the wider landscape and machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Invasion and establishment of Scotch Broom (<i>Cytisus scoparius</i>)	KTP		Unlikely	Potentially Machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Invasion and establishment of the Cane Toad (<i>Bufo marinus</i>)	KTP	KTP	Unlikely	Potentially This species is primarily confined to wetter subtropical and tropical sites, however, isolated populations can survive close to water elsewhere. Machinery used on site can potentially act as a transport for biosecurity risks.

Name	NSW status	Comm status	Likelihood of Occurrence	Exacerbated by Proposal?
				Implementation of the mitigation measures in Section 7 should reduce this risk.
Invasion of native plant communities by African Olive <i>Olea europaea</i> subsp. <i>cuspidata</i> (Wall. ex G. Don) Cif.	KTP		Unlikely	Potentially Machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Invasion of native plant communities by <i>Chrysanthemoides monilifera</i>	KTP		Unlikely	No This species is mainly confined to disturbed coastal sites.
Invasion of native plant communities by exotic perennial grasses	KTP		Likely	Yes Exotic perennial grasses already occur at the subject site and will likely spread further. Machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Invasion of the Yellow Crazy Ant, <i>Anoplolepis gracilipes</i> (Fr. Smith) into NSW	KTP		Unlikely	Potentially This species is not known within the area, however machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Invasion, establishment and spread of Lantana (<i>Lantana camara</i> L. sens. Lat)	KTP		Unlikely	Potentially This species is not known within the area, however machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	KTP	KTP	Likely	Potentially Machinery used on site can potentially act as a transport for biosecurity risks. Implementation of the mitigation measures in Section 7 should reduce this risk.
Loss of Hollow-bearing Trees	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Loss or degradation (or both) of sites used for hill-topping by butterflies	KTP		Unlikely	No No sites known or suspected to be present.
Predation and hybridisation by Feral Dogs, <i>Canis lupus familiaris</i>	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Predation by <i>Gambusia holbrooki</i> Girard, 1859 (Plague Minnow or Mosquito Fish)	KTP		Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Predation by the European Red Fox <i>Vulpes Vulpes</i> (Linnaeus, 1758)	KTP	KTP	Unlikely	No The proposal does not include any activities that would exacerbate this threat.

Name	NSW status	Comm status	Likelihood of Occurrence	Exacerbated by Proposal?
Predation by the Feral Cat <i>Felis catus</i> (Linnaeus, 1758)	KTP	KTP	Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Predation, habitat degradation, competition and disease transmission by Feral Pigs, <i>Sus scrofa</i> Linnaeus 1758	KTP	KTP	Unlikely	No The proposal does not include any activities that would exacerbate this threat.
Removal of dead wood and dead trees	KTP		Likely	Yes Some dead wood is likely to be impacted. Any dead wood encountered on site should be left in situ (where possible) or relocated to a suitable place nearby.