

# Albury Regional Job Precinct

Biodiversity Technical Report

20 September 2023

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## Signature Page

20 September 2023

# Albury Regional Job Precinct

## Biodiversity Technical Report



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Jye Dalton  
Ecologist



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Matt Davis  
Principal Ecologist



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Joanne Woodhouse  
Project Manager



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Peter Lavelle  
Partner

Environmental Resources Management Australia Pty Ltd  
Level 14, 207 Kent Street  
Sydney NSW 2000

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## EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) has been engaged by the Department of Regional NSW (DRNSW) to undertake a program of environmental and heritage studies to support the development of the Albury Regional Job Precinct (RJP) Master Plan, including the preparation of this Biodiversity Technical Report. This report is based on desktop review and field survey results and presents a description of key biodiversity values within the Investigation Area and immediate surrounds.

The objective of the report is to address key biodiversity values within the RJP Area (**Investigation Area**) and identifies the constraints and opportunities for the development of the future Albury Regional Job Precinct Area. It aims to test the preferred structure plan that was developed as part of a series of Integration Workshops and to establish the relevant specifications and requirements to assist in the development of the Master Plan. This assessment is not a Biodiversity Development Assessment Report (BDAR) and all credit obligations are provided as indicative only to support the Master Plan design process.

The Investigation Area covers 1199 ha of land located in the City of Albury LGA, centred on the Hume Highway in Ettamogah, and includes:

- Former Norske Skog paper mill;
- Hume Highway;
- Ettamogah Rail Hub;
- Overall Forge;
- Circular Plastics Australia PET recycling plant;
- Rural and agricultural land; and
- Commercial and light industrial clusters.

Field surveys to identify biodiversity values included rapid vegetation assessment points, vegetation mapping, BAM plots and targeted fauna surveys undertaken during two field survey events in November - December 2021 and March – April 2022.

Biodiversity values are defined as those species and communities listed as vulnerable, endangered or critically endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and/or the NSW *Biodiversity Conservation Act 2016* (BC Act). Based on a combination of desktop assessment and field survey:

A total of 12 ecosystem credit fauna species have been recorded within the Investigation Area (based on a combination of desktop (Bionet) and field surveys), including:

- *Artamus cyanopterus cyanopterus* (Dusky Woodswallow);
- *Falco hypoleucos* (Grey Falcon);
- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle);
- *Glossopsitta pusilla* (Little Lorikeet);
- *Melithreptus gularis gularis* (Black-chinned Honeyeater);
- *Miniopterus schreibersii oceanensis* (Eastern bentwing bat);
- *Neophema pulchella* (Turquoise Parrot);
- *Nyctophilus sp (geoffroyi/gouldii/ corbeni)* – (Long-Eared Bat complex) (species cannot be determined via Anabat recordings);
- *Petroica boodang* (Scarlet Robin);
- *Petroica phoenicea* (Flame Robin);

- *Saccolaimus flaviventris* (Yellow-bellied Sheathtail Bat) and
- *Stagonopleura guttata* (Diamond Firetail).

A total of 5 credit species (candidate species) have been recorded within the Investigation Area (based on a combination of desktop (Bionet) and field surveys), including:

- *Crinia sloanei* (Sloane's Froglet);
- *Lathamus discolor* (Swift Parrot);
- *Myotis Macropus* (Southern Myotis);
- *Pteropus poliocephalus* (Grey-headed Flying-fox); and
- *Petaurus norfolcensis* (Squirrel Glider).

Threatened fauna species records are generally found in the areas featuring denser vegetation, such as Bell's Reserve, Eight Mile Creek and vegetation to the north and south of the Investigation Area. The field assessment confirmed limited habitat availability for many of these species on the site, with patches of native vegetation being subject to previous modification with shrub and ground layers all modified and dominated by exotic species.

Sloane's Froglet records are dispersed across the Investigation Area, with dense clusters of records found in area of dense vegetation particularly adjacent to creek lines. Additional field surveys are recommended to be completed in winter during optimal calling period for this species to determine its presence in the Investigation Area. These surveys will be required for any future Biodiversity Development Assessment Reports (BDAR) to support individual developments in the Investigation Area, or as part of any future Biodiversity Certification Assessment Report (BCAR).

Field validation of existing vegetation mapping has determined that eight plant community types (PCT) classified as native are present within the Investigation Area:

- PCT268 - White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills;
- PCT266 - White Box grassy woodland;
- PCT277 - Blakely's Red Gum - Yellow Box grassy tall woodland;
- PCT269 - White Box - Blakely's Red Gum - Red Box - Red Stringybark shrubby woodland on shallow soils on metamorphic hills;
- PCT633 - Speargrass - Redleg Grass derived grassland on hills;
- PCT74 - Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion;
- PCT5 - River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion; and
- PCT85 - River Oak forest and woodland wetland of the NSW South Western Slopes and South Eastern Highlands Bioregion.

The woodland PCTs all have the potential to meet the requirements of the Box Gum Woodland TEC, listed as critically endangered under the BC Act.

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## Acronyms and Abbreviations

Name	Description
ALA	Atlas of Living Australia
AOBV	Area of Outstanding Biodiversity Value
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
BCSD	Biodiversity, Conservation and Science Directorate
BOS	Biodiversity Offset Scheme
BOSET	Biodiversity Offsets Scheme Entry Threshold
DCS	Department of Customer Service
DoEE	Department of Environment and Energy
DPE	Department of Planning and Environment
DRNSW	Department of Regional NSW
EECs	Endangered Ecological Community. EEC is a category of Threatened Ecological Community.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
ERM	Environmental Resources Management Australia Pty Ltd
Fisheries Act	<i>Fisheries Management Act 1994</i> (NSW)
Investigation Area	The Investigation Area for the purposes of this baseline assessment have been defined by the proponent and includes 1,199 ha of land within the City of Albury LGA. The location and extent of the Investigation Area is illustrated in Figure 1.1.
IUCN	International Union for Conservation of Nature
LGA	Local Government Area
LLS Act	<i>The Local Land Services Act 2013</i> (NSW)
MNES	Matter of Nation Environmental Significance
MSES	Matter of State Environmental Significance
NP&W Act	<i>National Parks and Wildlife Act 1974</i> (Commonwealth)
NSW TSSC	NSW Threatened Species Scientific Committee
OEH	NSW Office of Environment and Heritage
PCT	Plant Community Type
PMST	Protected Matters Search Tool
SAIL	Serious and Irreversible Impacts
SEPP	<i>State Environmental Planning Policy (Precincts Regional) 2021</i>
SOS	Save our Species
SPRAT	Species Profile and Threats Database
TEC	Threatened Ecological Community. In Australia three categories exist for listing threatened ecological communities: critically endangered, endangered and vulnerable.
WONS	Weeds of National Significance



## 1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) has been engaged by the Department of Regional NSW (DRNSW) to undertake a program of environmental and heritage studies to support the development of the Albury Regional Job Precinct (RJP) Master Plan.

This report has been based on a desktop review as well as field surveys that presents a description of key biodiversity values within the Investigation Area and immediate surrounds.

This report addresses key biodiversity values and identifies the constraints and opportunities for the future Albury RJP (refer to Figure 1-1).

This technical report has been designed to test the preferred structure plan that was developed as part of a series of Integration Workshops and aims to establish the relevant specifications and requirements to assist in the development of the Master Plan.

This document is for design purposes only and has not been prepared to support any development application process. Field survey and reporting has been undertaken in accordance with the Biodiversity Assessment Method, however, this report is not a Biodiversity Development Assessment Report (BDAR) and the results provided are indicative only.

### 1.1 Project Background

The Regional Job Precincts (RJPs) have been identified as areas of land that are of local significance based on economic enablers. The intention of the RJPs is to encourage private investment in regional localities to generate jobs and economic growth within the area to ensure future opportunities remain available to communities in rural areas without the requirement for relocation. The RJPs act as a catalyst for establishing regional centres such as Albury for major industrial development where future industrial developments are able to capitalise on the freight and logistics opportunities provided by future proofing through streamlined planning processes.

RJPs aim to preserve, enhance and protect the natural environment. This will include identification of key biodiversity values, as well as integration of strategies for greening the locality, maintaining, or enhancing habitat connections, and improving riparian corridors.

The Australian Government announced a pilot Regional Deal for Albury Wodonga on 20 March 2019 and it is currently in the negotiation phase. The Regional Deal is an opportunity to ensure that Albury Wodonga prospers over the next decade by supporting population growth and economic development while also ensuring it remains a nationally-significant, liveable, and prosperous region. The Albury Regional Job Precincts will leverage the opportunities associated with an expanded NEXUS industrial Precinct to create a hub of advanced manufacturing, agribusiness, freight and logistics services, circular economy and recycling with the goal of creating future employment opportunities and economic growth for the City of Albury LGA.

### 1.2 Investigation Area

The original Investigation Area was defined and identified by DRNSW as part of preliminary engagement for the RJP and includes areas identified for future investigation in the Albury Industrial Hub Master Plan. The Investigation Area includes 1,199 ha of land within the City of Albury LGA. The location and extent of the Investigation Area is illustrated in Figure 1-1.

The Investigation Area is centred on Ettamogah, north of Albury and includes:

- Former Norske Skog paper mill;
- Hume Highway;
- Ettamogah Rail Hub;
- Overall Forge;

- Circular Plastics Australia PET recycling plant;
- Rural and agricultural land; and
- Commercial and light industrial clusters.

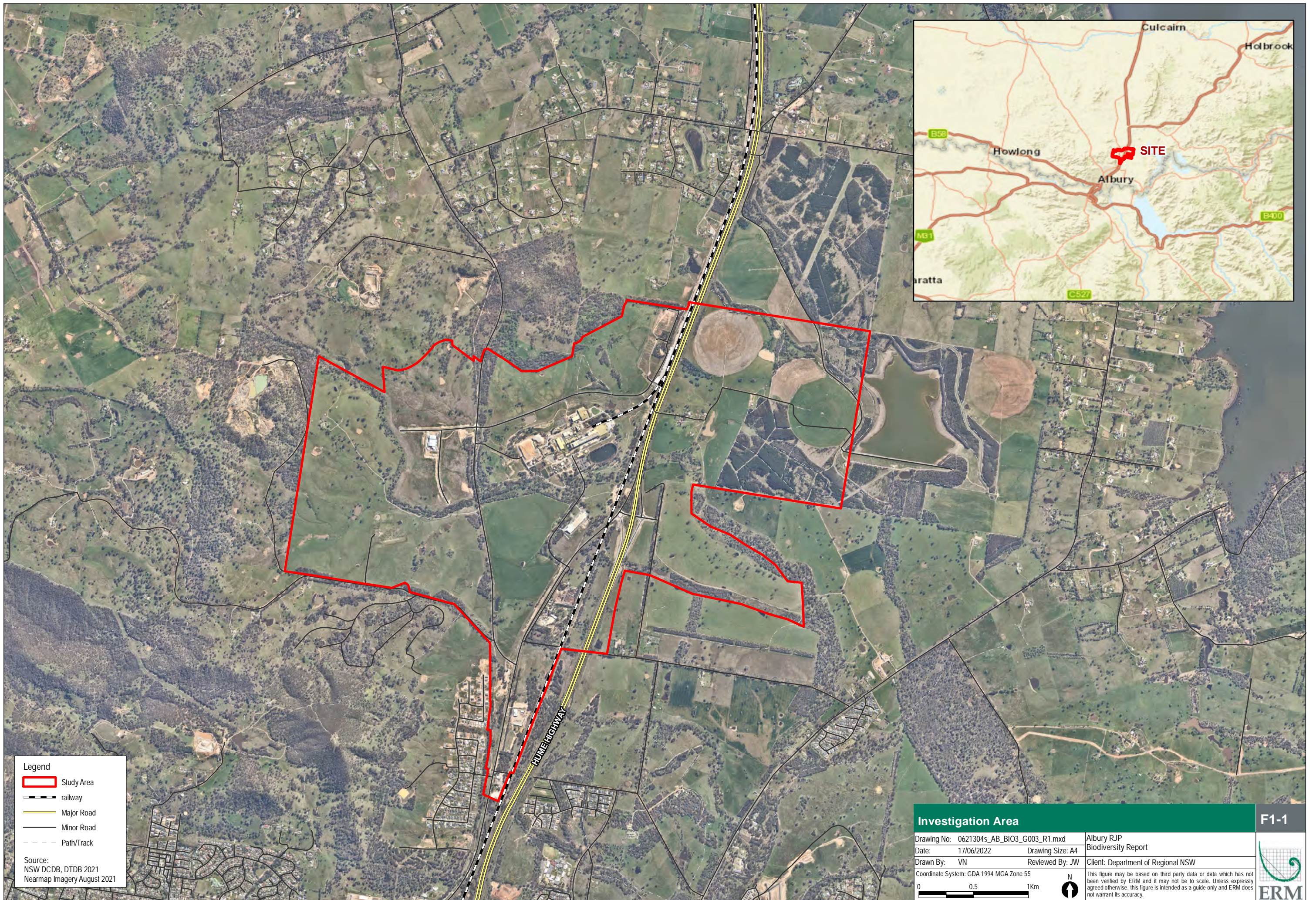
### 1.3 Draft Master Plan

A draft Master Plan has been developed in consultation with industry, governments, and professional consultants to foster development that is both sustainable and environmentally conscious (Figure 1-2).

Planning for biodiversity by structuring large scale developments such as the Albury RJP to incorporate habitat linkages, enhancement of vegetated areas and creation of nature reserves is key to creating sustainable developments and maintaining biodiversity movement and fauna populations throughout urban and peri urban areas.

The Draft Master Plan incorporates protections of existing vegetation by proposing the creation of conservation zones throughout the RJP area. The Draft Master Plan proposes to utilise areas currently zoned as Zone C3 (Environmental Management) alongside newly proposed conservation zones to act as a potential mechanism for additional protection of habitat corridors, vegetation linkages and conservation areas through state and local planning measures. These zones have been proposed only as part of the RJP planning process and have not been endorsed through a formal planning scheme process.





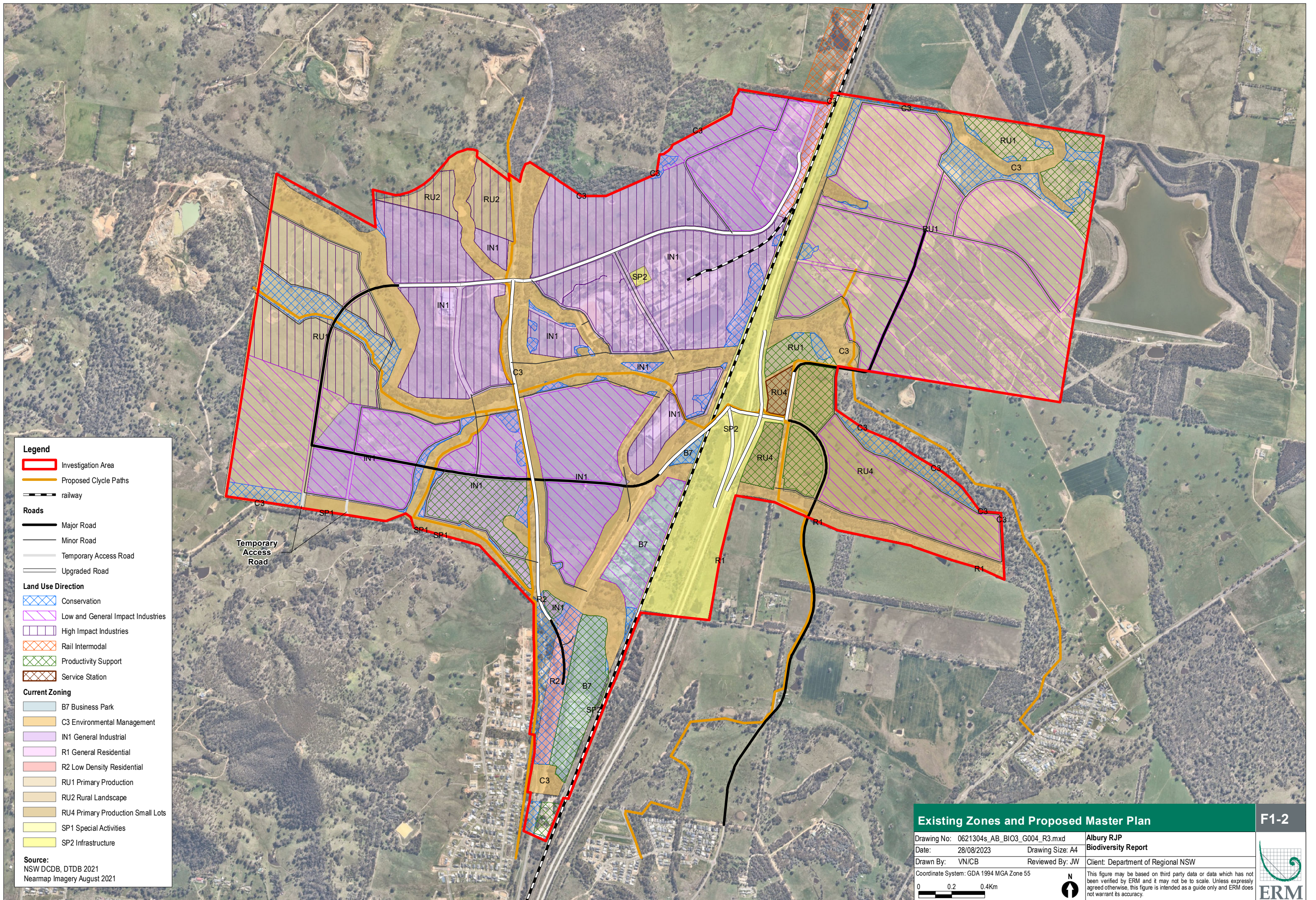
**Legend**

- Study Area
- railway
- Major Road
- Minor Road
- Path/Track

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

<b>Investigation Area</b>		<b>F1-1</b>
Drawing No: 0621304s_AB_BIO3_G003_R1.mxd	Albury RJP Biodiversity Report	
Date: 17/06/2022	Drawing Size: A4	
Drawn By: VN	Reviewed By: JW	Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55		
<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 5px;">0</div> <div style="margin-right: 5px;">0.5</div> <div style="margin-right: 5px;">1Km</div> </div>		<p>This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.</p>





**Legend**

- Investigation Area
- Proposed Cycle Paths
- railway

**Roads**

- Major Road
- Minor Road
- Temporary Access Road
- Upgraded Road

**Land Use Direction**

- Conservation
- Low and General Impact Industries
- High Impact Industries
- Rail Intermodal
- Productivity Support
- Service Station

**Current Zoning**

- B7 Business Park
- C3 Environmental Management
- IN1 General Industrial
- R1 General Residential
- R2 Low Density Residential
- RU1 Primary Production
- RU2 Rural Landscape
- RU4 Primary Production Small Lots
- SP1 Special Activities
- SP2 Infrastructure

**Source:**  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

Existing Zones and Proposed Master Plan		F1-2	
Drawing No: 0621304s_AB_BIO3_G004_R3.mxd	Albury RJP		
Date: 28/08/2023	Drawing Size: A4		Biodiversity Report
Drawn By: VN/CB	Reviewed By: JW		Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55			<small>This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.</small>



## 1.4 Objectives

The objective of this biodiversity technical report is to address key biodiversity values and identify the constraints and opportunities for the future Albury RJP. Biodiversity values are defined as those species and communities listed as vulnerable, endangered or critically endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and/or the NSW *Biodiversity Conservation Act 2016* (BC Act). This report has been based on a desktop review as well as field surveys that and presents a description of key biodiversity values within the Investigation Area and immediate surrounds.

The Report includes:

- Identification of actual and potential biodiversity values within 10km of the Investigation Area, including the presence of listed threatened species (and their habitats) and ecological communities;
- Identification of major environmental factors that are a threat to the natural environment of the region including habitat isolation and fragmentation, climate change, erosion, groundwater dependant ecosystems and invasive species;
- Presentation of results from field surveys and ground-truthed Plant Community Type (PCT) map and habitat assessments from the two rounds of field surveys in November-December 2021 and March – April 2022;
- Identification of areas of high, medium and low environmental value, relative to vegetation condition and habitat suitability for threatened species; and
- Identification of priority areas to be considered for buffers, stewardship sites, linkages or corridors, as well as areas to be considered for restoration, regeneration and/or revegetation.

This technical report has been designed to test the preferred structure plan that was developed as part of a series of Integration Workshops and aims to establish the relevant specifications and requirements to assist in the development of the Master Plan.

## 1.5 Next Steps

The final round of field surveys was completed on 28 March 2022 to 1 April 2022. Where surveys could not be completed within the seasonal requirements for some species (i.e., spring flowering period for threatened orchids) and potential habitat is available within the selected precinct, the assessment will either be supported by an expert report, or species presence will be assumed.

The results in this report present a preliminary biodiversity assessment, adopting some of the requirements of Stage 1 of the BAM to map PCTs, completed targeted threatened species surveys where seasonal periods align, and identify areas of habitat for threatened species. Field surveys were completed in late spring/early summer and autumn, including some targeted threatened bird and bat surveys. The results of these field surveys include some species, such as Masked Owl and Sloane's Froglet, that would require field surveys in winter to meet seasonal survey periods to confirm presence or absence.

There is a potential for the RJP to pursue biodiversity certification during future planning phases, to lock in areas of development land uses and conservation areas, with offset credits addressed within the RJP boundary through implementation of stewardship sites. The fieldwork completed as part of this report can be used for any future Biodiversity Certification Assessment Report (BCAR), including the BAM plots and targeted threatened species surveys. Additional vegetation surveys and targeted threatened species surveys will be required to support any BCAR application, however the type and location of these surveys will depend on the final Master Plan adopted.



## Legislative and Policy Context

This biodiversity analysis report has been undertaken with consideration of Commonwealth, State and Local regulatory frameworks and associated legislation. Table 2-1 summarises the relevant legislation and policies applicable to this biodiversity report.

It is also noted that the proposed Master Plan for the RJP Investigation Area will provide for environmental protection and performance, land uses and planning pathways. The goal is to undertake upfront assessment at a strategic level so industry and the community have certainty and clarity about what types of land uses and development can occur where. The draft Master Plan is expected to go on public exhibition for comments and feedback in the second half of 2022.

**Table 2-1 Key Legislation and Policies**

### Commonwealth Legislation

#### *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

The EPBC Act requires approval of the Commonwealth Minister for the Environment for actions that are likely to have a significant impact on Matters of National Environmental Significance (MNES) as assessed in accordance with the EPBC Significant Impact Guidelines 1.1. The EPBC Act is administered by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) and lists threatened species, ecological communities and other MNES. Any proposed action that is expected to have an impact on MNES must be referred to the Minister for assessment under the EPBC Act, or assessed under the existing bilateral agreement, or accredited process between the Commonwealth and the State of New South Wales (NSW).

Matters of National Environmental Significance	Application to the Investigation
World heritage properties	Not identified within the Investigation Area
National heritage places	Albury Post Office – Identified in Buffer Area
Ramsar wetlands of international importance	There are no Ramsar wetlands within, or adjacent to the Urban Investigation Area. The nearest Ramsar wetlands are: <ul style="list-style-type: none"> <li>■ Banrock station wetland complex - 600 - 700km downstream;</li> <li>■ Barmah forest - 100 - 150km downstream ;</li> <li>■ Gunbower forest - 200 - 300km downstream;</li> <li>■ Hattah-kulkyne lakes - 400 - 500km downstream;</li> <li>■ NSW Central Murray State Forests - 100 - 150km downstream;</li> <li>■ Riverland - 500 - 600km downstream; and</li> <li>■ The Coorong, and Lakes Alexandrina and Albert Wetland - 600 - 700km downstream</li> </ul>
Listed threatened species and communities	PMST search identified potential for these matters to occur within the Investigation Area. Refer to Table 6-2 of this report
Internationally protected migratory species	PMST search identified potential for these matters to occur within the Investigation Area. There is limited habitat for migratory birds in the Investigation Area.
Commonwealth marine areas	Not identified within the Investigation Area
The Great Barrier Reef Marine Park	Not identified within the Investigation Area
Nuclear actions	Not identified within the Investigation Area
A water resource, in relation to coal seam gas development and large coal mining development	Not identified within the Investigation Area

## NSW Statutory Legislation and Guidelines

### *Biodiversity Conservation Act 2016 (BC Act)*

The BC Act came into effect on 25 August 2017. The BC Act replaced the NSW *Threatened Species Conservation Act 1995*, the NSW *Nature Conservation Trust Act 2001* and parts of the NSW *National Parks and Wildlife Act 1974* (NP&W Act). The BC Act establishes mechanisms for:

- The management and protection of listed threatened species of native flora and fauna (excluding fish and marine vegetation) and threatened ecological communities (TECs);
- The listing of threatened species, TECs and key threatening processes;
- The development and implementation of recovery and threat abatement plans;
- The declaration of critical habitat;
- The consideration and assessment of threatened species impacts in development assessment process; and
- Biodiversity Offsets Scheme (BOS), including the Biodiversity Values Map and Biodiversity Assessment Method (BAM) to identify serious and irreversible impacts (SAIL).

The BC Act establishes a new regulatory framework for assessing and offsetting biodiversity impacts on proposed developments. Where development consent is granted, the authority may impose as a condition of consent an obligation to retire a number and type of biodiversity credits determined under the BAM. A Biodiversity Values Map and Biodiversity Offsets Scheme Entry Threshold (BOSET) tool are available to identify the presence of mapped biodiversity values within land proposed for development as well as the clearing thresholds that would trigger application of the BAM.

The application of the BAM and the potential for strategic biodiversity certification will be assessed as the RJP project progresses. It is intended that the results of the field surveys presented in this report, that utilised relevant sections of Stage 1 of the BAM, can be directly input into the preparation of a Biodiversity Certification Assessment Report (BCAR) for the RJP, if certification is an option to be pursued. The recommendations for areas of conservation zoning presented in this report can be used to prepare a Master Plan for the RJP that conserves areas of biodiversity significance.

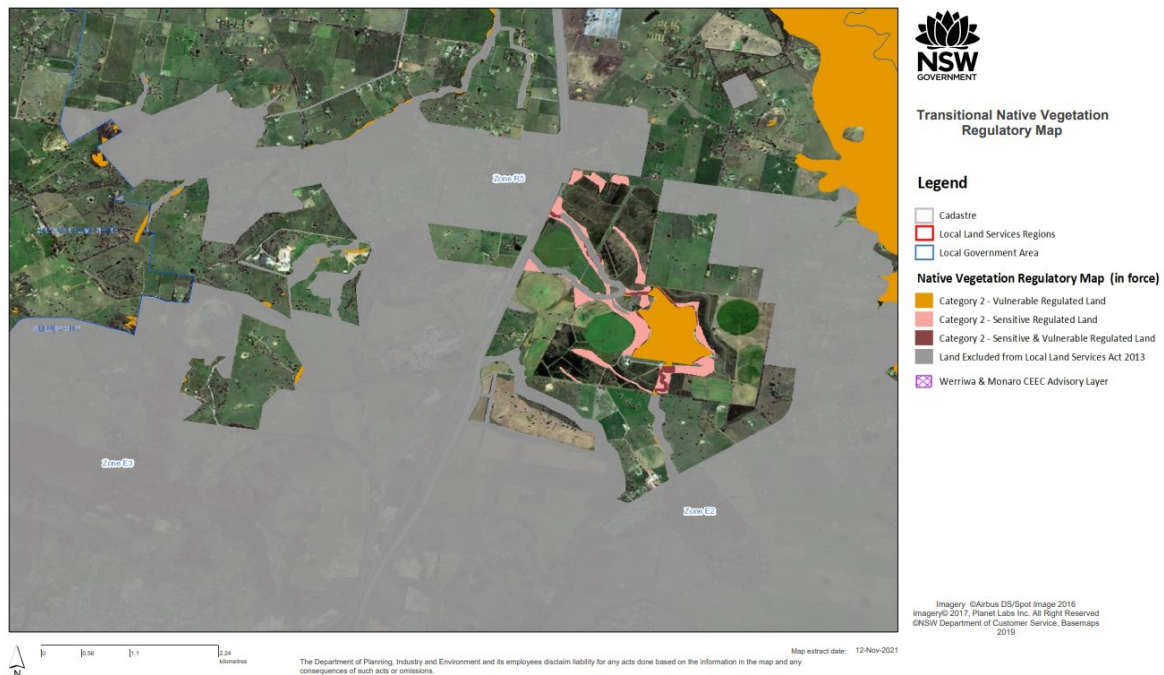
### *Local Land Services Act 2013*

The *Local Land Services Act 2013* (LLS Act) regulates the management of vegetation on rural land. The amendments to the LLS Act have resulted in a change to the criteria for native vegetation clearing. There are now three different land categories for clearing on rural land:

- Category 1 Exempt land is land where native vegetation can be cleared without approval from Local Land Services. Category 1 land is excluded from assessment under the BAM, unless prescribed impacts as defined by Section 6.1 of the BAM are identified. Any prescribed impacts on Category 1 land will still need to be assessed as part of any future BCAR or BDAR within the RJP boundary;
- Category 2 land is divided into:
  - Category 2 Regulated land is Category 2 land that is not Vulnerable or Sensitive regulated land. You may need authorisation from Local Land Services to clear native vegetation from rural zoned land in this category;
  - Category 2 Vulnerable regulated land is land where clearing of native vegetation may not be permitted under the Land Management (Native Vegetation) Code 2018, and a limited range of allowable activities are permitted; and
  - Category 2 Sensitive regulated land is land where clearing is not permitted under the Land Management Code (Native Vegetation) Code 2018, and a limited range of allowable activities is permitted.
- Excluded land is land where the Land Management (Native Vegetation) Code 2018 and allowable activities do not apply.

As shown on the map extract below from the Native Vegetation Regulatory Land Map, the majority of the RJP is mapped as Category 1 – Land excluded from the LLS Act. There are some areas of Category 2 Regulated Land to the east of the Hume Highway, largely associated with Nine Mile Creek riparian zone.

The clearing provisions of the LLS Act are limited to activities permitted without consent on RU1-4 and RU6 only. They do not authorise clearing ancillary to development permitted with consent on any land. Council is the regulator of clearing on all land other than RU1-4 and RU6. The LLS Act provisions do not authorise any clearing anticipated in the Albury RJP.



### Native Vegetation Regulatory Land Map

#### Biosecurity Act 2015

The NSW *Biosecurity Act 2015* came into effect on 1 July 2017, effectively replacing the *Noxious Weeds Act 1993*, and 13 other Acts, with a single Act. Under the *Noxious Weeds Act* all landowners had a responsibility to control noxious weeds on their property. Under the *Biosecurity Act* broadly the same responsibility will apply and will be known as a General Biosecurity Duty.

The General Biosecurity Duty states “Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised.” The general biosecurity duty applies to all weeds listed in Schedule 3 of the *Biosecurity Act*.

Primary weeds have been identified in different Local Government Areas (LGA) due to the level of threat infestation they represent, some of the Weeds of National Significance (WoNS) are also listed as Primary Weeds in LGAs.

A strategic plan for each weed will be required within the final precinct to define responsibilities and identify strategies and actions to control the weed species. These can be downloaded from:

<http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html>

#### Fisheries Management Act 1994

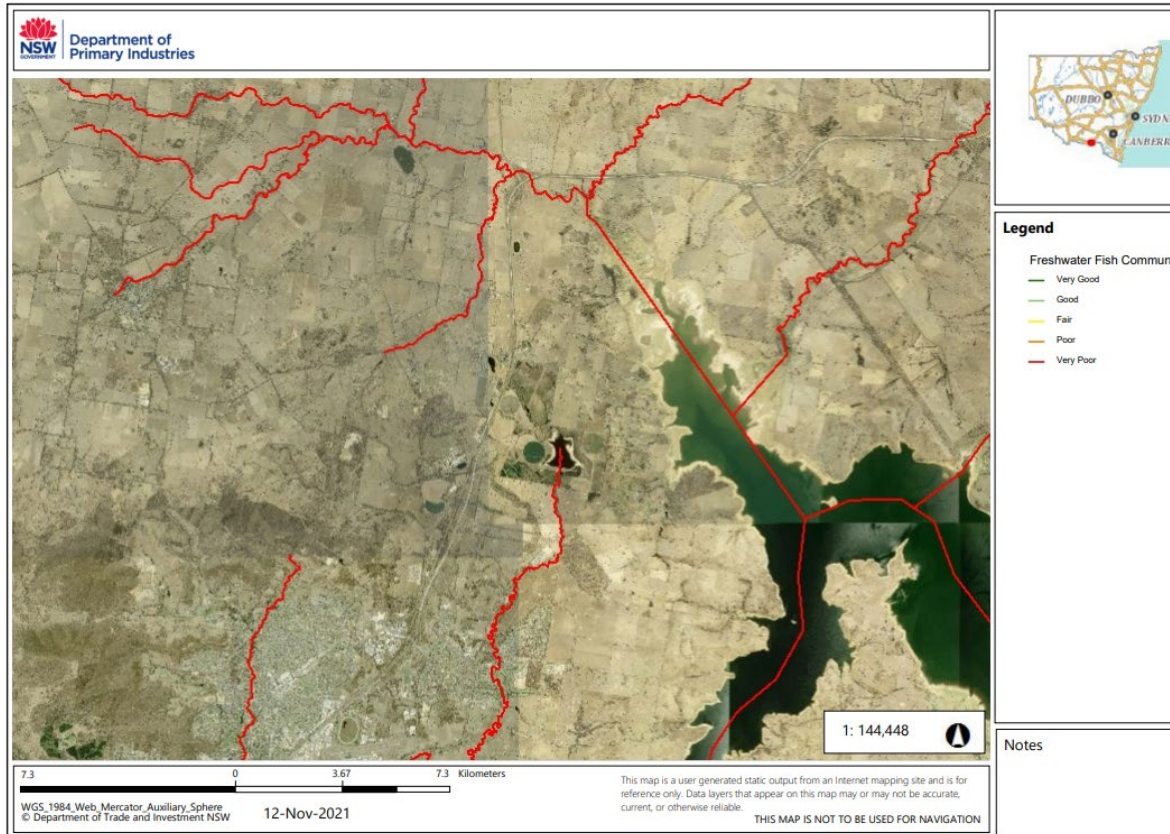
The *Fisheries Management Act 1994* provides for the conservation, protection and management of fisheries, aquatic systems and habitats in NSW. Similar to the BC Act, the *Fisheries Management Act 1994* lists threatened species, populations and ecological communities of fish and marine vegetation.

Key fish habitat mapped for the City of Albury LGA is shown below. It can be seen that this includes the ocean, estuaries, wetlands and rivers.



Consideration of likely occurrence of threatened fish in the waterways in the final precinct will be provided within the Biodiversity Assessment Reports although it is noted that the Fisheries Spatial Data Portal identifies the Tilligerry Creek as poor quality freshwater fish habitat.





Schedule 6 of the *Fisheries Management Act 1994* also lists the following key threatening process that may be relevant to Master Plan design process:

- Degradation of native riparian vegetation along New South Wales water courses;
- Human-caused climate change; and
- Removal of large woody debris from New South Wales rivers and streams.

Any waterway crossings will need to consider an appropriately designed structure that does not obstruct fish passage and will be designed in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management and the Policy and Guidelines for Fish Friendly Waterway Crossings.



### Biodiversity Certification for the Albury Local Environmental Plan 2010

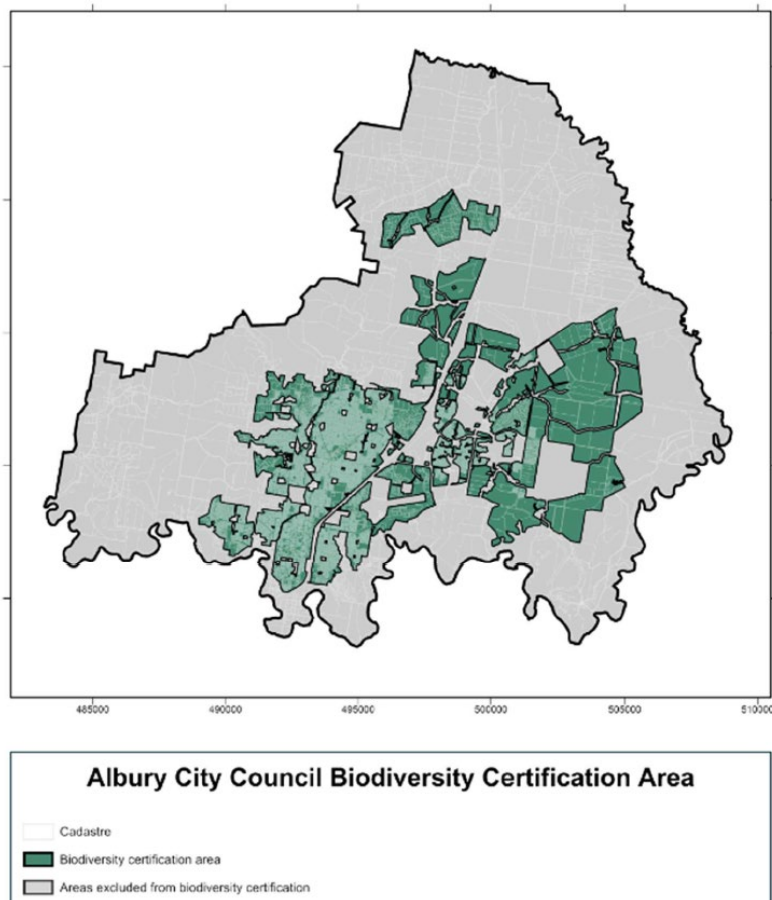
Biodiversity certification under the (now repealed) *Threatened Species Conservation Act 1995* was conferred on the Albury LEP 2010 (including bio-certified areas) on the 25 February 2011 (and as modified by Order 2017) on the basis that ALEP 2010 provisions, in addition to the measures set out in Schedule 2 to the original Order (2011), would lead to the overall improvement or maintenance of biodiversity values. Following replacement of the existing Biodiversity Certification with certification under Part 8 of the Biodiversity Conservation Act 2016 prior to its expiry.

Biodiversity certification of ALEP 2010 (including the proposed bio-certified area) means that any development in the proposed bio-certified area (for which development consent is required under ALEP 2010), is for the purposes of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP& A Act) taken to be development that is not likely to significantly affect any threatened species, population, or ecological community or its habitat. As shown on the map below, these bio-certification areas include areas to the west of the Hume Highway on the existing Visy facility, the PET recycling plant and land between Wagga Road and Gerogery Road. To the east of the highway, there is no land subject to biodiversity certification.

Biodiversity certification is set to expire on 24 February 2026, and it is recommended that the RJP be subject to a new certification process under the BC Act.

Consultation with the Biodiversity, Conservation and Science Directorate (BCSD) in DPE at the commencement of this RJP project, indicated that there would be a preference for investigating a new biocertification across the RJP boundary area in accordance with the *Biodiversity Conservation Act 2016* (BC Act). This process would involve applying Stage 1, 2 and 3 of the Biodiversity Assessment Method (BAM) to identify areas that are subject to biodiversity impacts, as well as identifying potential stewardship sites where biodiversity credits can be generated, both to offset impacts of development within the RJP and other developments.

The biodiversity assessment in this report has completed PCT mapping, assessment of vegetation integrity and habitat suitability for threatened species to contribute to a multidisciplinary land use planning process to assign appropriate zones across the RJP. Areas identified as containing native vegetation, threatened ecological communities or habitat for threatened species have been recommended to be retained in conservation zones. When a final Master Plan is agreed, the results of the biodiversity investigations presented in this report can be used to prepare a BCAR for the RJP.



## 2. ASSESSMENT METHODOLOGY

### 2.1 Overview

Relevant information collated during preparation of the Biodiversity Baseline Assessment Report (ERM 2021) was used to inform the field surveys and has been incorporated into this report. These information sources are provided in Table 3.1, along with additional information sources reviewed specifically for this report.

### 2.2 Desktop Review

A number of desktop sources were reviewed to identify ecological values that may occur within the Investigation Area. The databases and other key sources considered are listed in Table 3-1.

A search area containing the Investigation Area and a 10km buffer was used to identify potential significant biodiversity features to be considered as part of this biodiversity analysis report. The Protected Matters Search Tool (PMST) and BioNet results were cross-checked using Atlas of Living Australia (ALA) database locations of records in the context of the actual Investigation Area boundary.

This desktop review provides information on species known or likely to occur within the Investigation Area only, based on species records, the availability of suitable habitat, breeding and roosting sites for bats, and Ramsar sites for water birds.

**Table 3-1 Key Information Sources**

Information Source	Name	Search Date	Data Description
DCCEEW	PMST	06/12/2021	The search tool provides predictive results of Matters of National Environmental Significance based on mapping of known and potential species distribution, habitat, ecological communities and wetlands. The outputs are based on modelling results and do not necessarily reflect known records of species or communities. The features highlighted by the search are considered further through a likelihood of occurrence assessment (see Appendix A). Search area: Parameter of Investigation Area, ranging between -35.99748 and -35.99727 and 146.95829 and 147.01399 (with a 1 km buffer around this middle point of the Investigation Area).
DCCEEW	Species Profile and Threats Database (SPRAT)	06/12/2021	The SPRAT profiles and associated conservation advice documents were consulted for the following reasons: They provide detailed information for the Likelihood of Occurrence assessment on: <ul style="list-style-type: none"> <li>■ Species distribution</li> <li>■ Species habitat preferred</li> </ul> The conservation advice documents are particularly important for assessing TECs found in field surveys, against the listed TEC guidelines.
ala.org.au	ALA		Australia national biodiversity database (supported by the National Collaborative Research Infrastructure Strategy, CSIRO). Database contains records accessed through an interactive spatial portal. Threatened species are searched to identify known records in proximity to the Investigation Area.
Department of Planning and Environment (DPE)	BioNet	06/12/2021	Data from the BioNet Atlas website [North: -35.89 West: 146.85 East: 147.13 South: -36.12]

Information Source	Name	Search Date	Data Description
Department of Planning and Environment (DPE)	BAM Calculator	March 2022	An initial run of the BAM Calculator, based on available vegetation mapping, was undertaken to provide a list of threatened species to be considered for the field survey and reporting.
Department of Planning and Environment (DPE)	BAM Calculator	June 2022	

## 2.3 Assumptions and Limitations

The absence of a species from a database list or observational studies does not confirm its absence from the Investigation Area. The lack of existing records from databases is more likely to be reflective of targeted sampling effort, as opposed to the absence of threatening processes and species. To overcome these limitations, detailed surveys and assessment in accordance with the BAM will be undertaken to inform the Master Plan or species presence assumed based on habitat features, where surveys are not possible due to seasonal limitations.

To overcome these limitations, the likelihood of occurrence is based on the precautionary approach and identifies species that have the potential to occur rather than relying on species sightings alone.

Where surveys could not be completed within the seasonal requirements for some species (i.e., spring flowering period for threatened orchids and winter for some threatened fauna) and potential habitat is available within the selected precinct, the assessment will either be supported by an expert report, or species presence will be assumed.

## 2.4 Field Surveys

A staged approach to the field survey program has been utilised in accordance with the BAM and to collect information on the biodiversity constraints to contribute to the development of the preferred Master Plan.

Initial spring field surveys were undertaken in November and December 2021 and included Rapid Vegetation Assessment Points, targeted fauna surveys, microchiropteran echolocation surveys, and ground validation of state PCT mapping. The field survey focussed on the vegetated/undeveloped areas within the Investigation Area. A second round of field surveys were completed 28 March – 01 April, focussed on completing BAM plots, 12 plots were completed in total.

Weather conditions during the survey periods are presented in Table 3-2 with data collected from station number 072160 (Bureau of Meteorology 2022). Throughout the week of 22<sup>nd</sup> November preceding the field survey, 49.2mm of rainfall was recorded with a total of 123.4mm recorded in November 2021.

Conditions during the March 2022 survey event were dry, clear and mild with no rainfall during the fieldwork. Total rainfall in March 2022 was 41.6mm, which is average for the month. No rainfall occurred in the week preceding this field survey.

**Table 3-2 Weather conditions during field surveys**

Date	Min. Temp °C	Max. Temp °C	Rel. Hum. 9am	Rel. Hum 3pm	Wind Speed (km/hr) and Direction		Rainfall (mm) 24 hrs
					9 am	3 pm	
30 <sup>th</sup> November 2021	13	29	69%	35%	WNW 9	NW 17	0.0
1 <sup>st</sup> December 2021	18	30	83%	58%	NW 6	NW 11	0.0
2 <sup>nd</sup> December 2021	16	32	73%	40%	WNW 7	NW 9	0.0
28 <sup>th</sup> March 2022	14	27	88%	51%	N 2	NNW 11	0.0
29 <sup>th</sup> March 2022	14	28	73%	37%	W 2	NWW 6	0.0
30 <sup>th</sup> March 2022	14	28	88%	42%	No Wind	NE 11	0.0
31 <sup>st</sup> March 2022	15	24	64%	44%	NW 15	NW 33	0.0
1 <sup>st</sup> April 2022	14	20	58%	39%	N 9	NW 32	0.0

Plant Community Types (PCTs) were identified according to the NSW PCT classification as described in the NSW BioNet Vegetation Information System (BioNet VIS) using a combination of aerial photograph interpretation (API), a review of regional vegetation mapping and ground-truthing dominant structural / floristic attributes via traverses across the Investigation Area.

#### 2.4.1 Rapid Vegetation Assessment Points

Field data collected by rapid survey includes the latitude and longitude of the survey point, dominant canopy, sub canopy, shrub and ground cover species within the immediate vicinity of the survey point. Desktop PCT mapping was also validated. A total of 108 plots were completed between 30 November – 02 December 2021.

#### 2.4.2 Vegetation Integrity Plots

BAM surveys were undertaken on 28 March – 01 April 2022 to conclusively verify the Plant Community Types (PCTs) and to assess the condition of the vegetation within the RJP boundary against the benchmark condition for each PCT found within the Investigation Area. Areas of high, medium and low environmental value, were identified and is presented in Figure 4-1

- 12 BAM plots were completed within the 28 March – 1 April survey period.

## 2.5 Fauna Surveys

The fauna survey methodology follows standardised survey guidelines, including DEC (draft 2004) and Biodiversity Assessment Method survey requirements (DPIE, 2020) where seasonal requirements allowed. Following is a description of fauna survey methods employed for each fauna group. The main fauna survey was conducted over the period 30 November to 02 December 2021. Additional fauna monitoring was conducted by use of ANABAT for microchiropteran species and song meters for amphibians deployed over the period 30 November to 02 December 2021. Fauna survey locations are presented in Figure 3-1.

A summary of the fauna survey methodology is provided in Table 3-3 and detailed below.

**Table 3-3 Fauna Survey Effort, Albury RJP Boundary**

Method	Survey Dates	Effort	Total Survey Effort
Diurnal Birds	30 November – 02 December 2021	12 sites surveyed for 30 mins per day	3 days, with 6 person hours per day for a total of 18 person hours
Anabat Detector	30 November – 02 December 2021	4 sites x 2 nights each set to record for 4 hours per night	32 detector hours
Reptile Searches	30 November – 02 December 2021	Opportunistic, estimated at 3 hours per day	9 person hours.

Method	Survey Dates	Effort	Total Survey Effort
Amphibian Surveys	30 November – 02 December 2021	Aural census at 5 sites over 2 nights + spotlight	2 nights aural census, with one hour per site for a total of 10 hour recording
Mammal Activity Surveys	30 November – 02 December 2021	Opportunistic, estimated at 3 hours per day	9 person hours.

### 2.5.1 Birds

Birds were sampled by diurnal census and recorded opportunistically whilst undertaking other field duties. This includes direct observations of bird species and identification of their characteristic calls. The census was conducted across the day for a period of 30 minutes for each site/census, recording all bird species heard or observed within a 1ha area (100 x 100m) area. Due to the high mobility of many avian species, it is assumed the species recorded will utilise all suitable habitat throughout the Investigation Area, including the proposed development and environment land uses. One vulnerable bird species, diamond firetail (*Stagonopleura guttata*), was detected nesting within the Investigation Area. A full list of bird species detected during survey is available in Appendix C.

### 2.5.2 Mammals

#### Mammal Activity Searches

Mammal activity searches included conducting diurnal searches across the RJP Investigation Area for signs of non-flying mammal activity such as scats, scratches on trees, sap-feeding scars on tree trunks, diggings in the ground, nests, dreys, remains, tracks and burrows. Mammals and mammal activity observed within the Investigation Area is presented in Appendix C.



## Echolocation Calls

Echolocation calls of microchiropteran bats were recorded at each bat monitoring site. Calls are recorded by ANABAT detectors set to record for a total of four hours after dusk each night. This technique enables sampling of bat activity for the duration of the fly out period, providing a comprehensive recording of bat species utilising the RJP boundary. All recorded calls were downloaded to a computer for analysis by Dr Heidi Kolkert (Impact Ecology) utilising Anabat Insight (Titley Scientific) software. Four sites were sampled over the period 30 November to 02 December 2021, for a total of 32 hours recorded.

Various microbat species overlap in call frequency and structure making call identification inconclusive for these species. For example, echolocation calls of the lesser long-eared bat (*Nyctophilus geoffroyi*) and Gould's long-eared bat (*Nyctophilus gouldi*) cannot be reliably differentiated, and are therefore grouped as *Nyctophilus sp.* A degree of confidence is also attached to microbat call analysis. Confidence is dependent on the duration of the recorded call and the quality of recording.

Six micro bats were identified through ANABAT call analysis. Three threatened bat species, yellow-bellied sheath tail bat (*Saccolaimus flaviventris*), eastern false pipistrelle (*Falsistrellus tasmaniensis*) and large bent-winged bat (*Miniopterus schreibersii oceanensis*) and one possibly threatened species was recorded, *Nyctophilus sp.* Of these species, yellow-bellied sheath tail bat and eastern false pipistrelle are ecosystem credit species, with some marginal foraging habitat present in woodland areas the riparian corridor across the RJP Boundary. Large bent-winged bat is a dual credit species, with only its breeding habitat of caves, tunnels, mines or other structures considered as areas where species credit habitat occurs, of which these are absent from the RJP boundary.

### 2.5.3 Reptiles and Amphibians

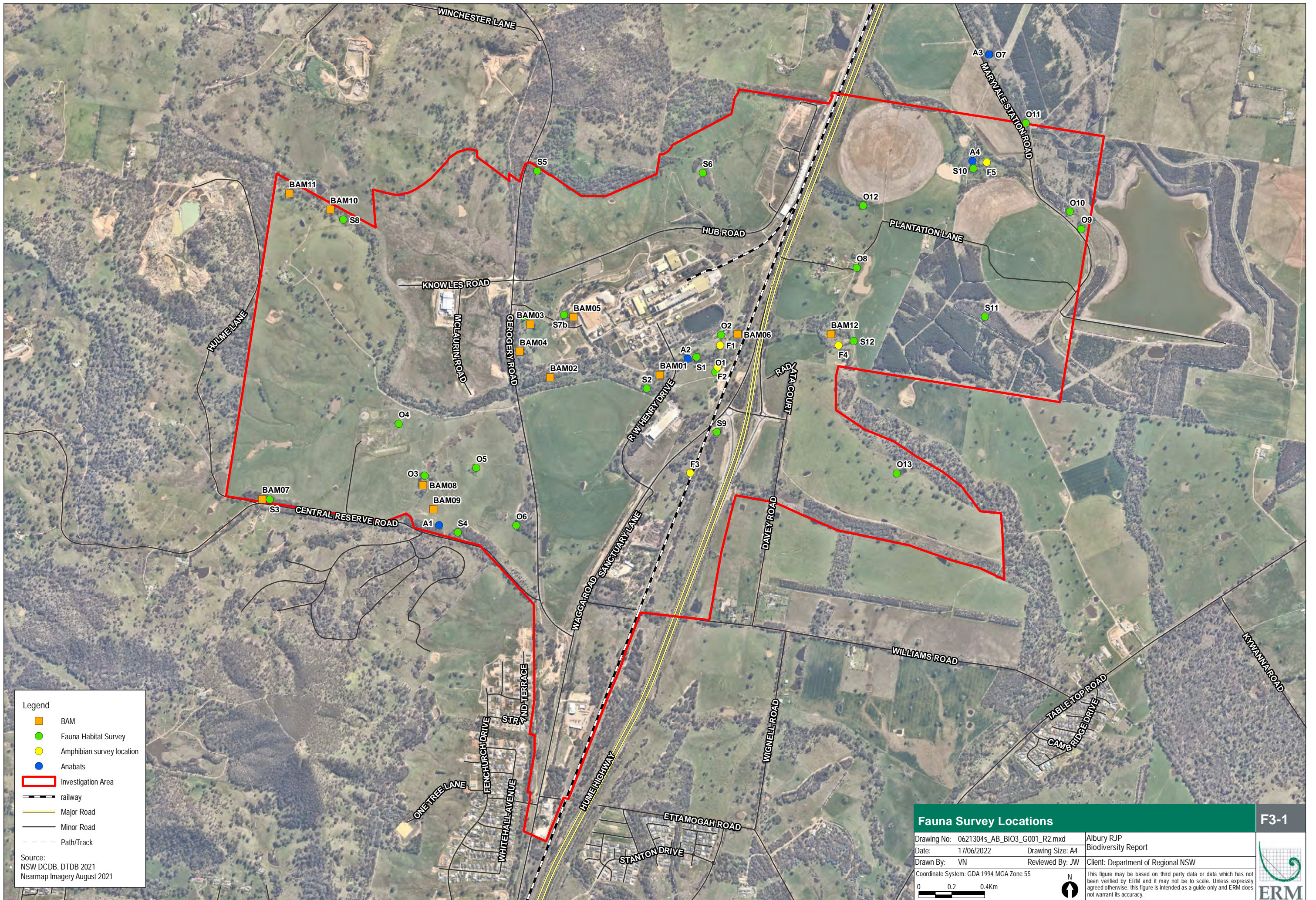
#### Systematic and Opportunistic Searches

Reptiles were searched for under natural features (ground logs, rocks, leaf litter) across the RJP boundary. Searches for reptiles were conducted from early morning to late afternoon as well as opportunistic sightings whilst conducting other phases of the field survey.

Aquatic habitat within the RJP boundary was sampled by combination of quiet listening for frog calls, and recordings placed at five locations across the RJP area to record evening calls of frogs.

No threatened amphibian species were returned in the BAM C, however Bionet records indicate the presence of Sloane's froglet (*Crinia sloanei*). While peak calling times for the Sloane's froglet are from June – August, they will also call throughout spring and after summer rains. (Threatened Species Scientific Committee, 2018). Throughout the week of 22nd November, 49.2mm of rainfall was recorded with a total of 123.4mm recorded in November 2021.





**Legend**

- BAM
- Fauna Habitat Survey
- Amphibian survey location
- Anabats
- Investigation Area
- railway
- Major Road
- Minor Road
- Path/Track

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

Fauna Survey Locations		F3-1
Drawing No: 0621304s_AB_BIO3_G001_R2.mxd	Albury RJP	
Date: 17/06/2022	Drawing Size: A4	
Drawn By: VN	Reviewed By: JW	Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55		This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
 0 0.2 0.4km		



### 3. BIODIVERSITY VALUES

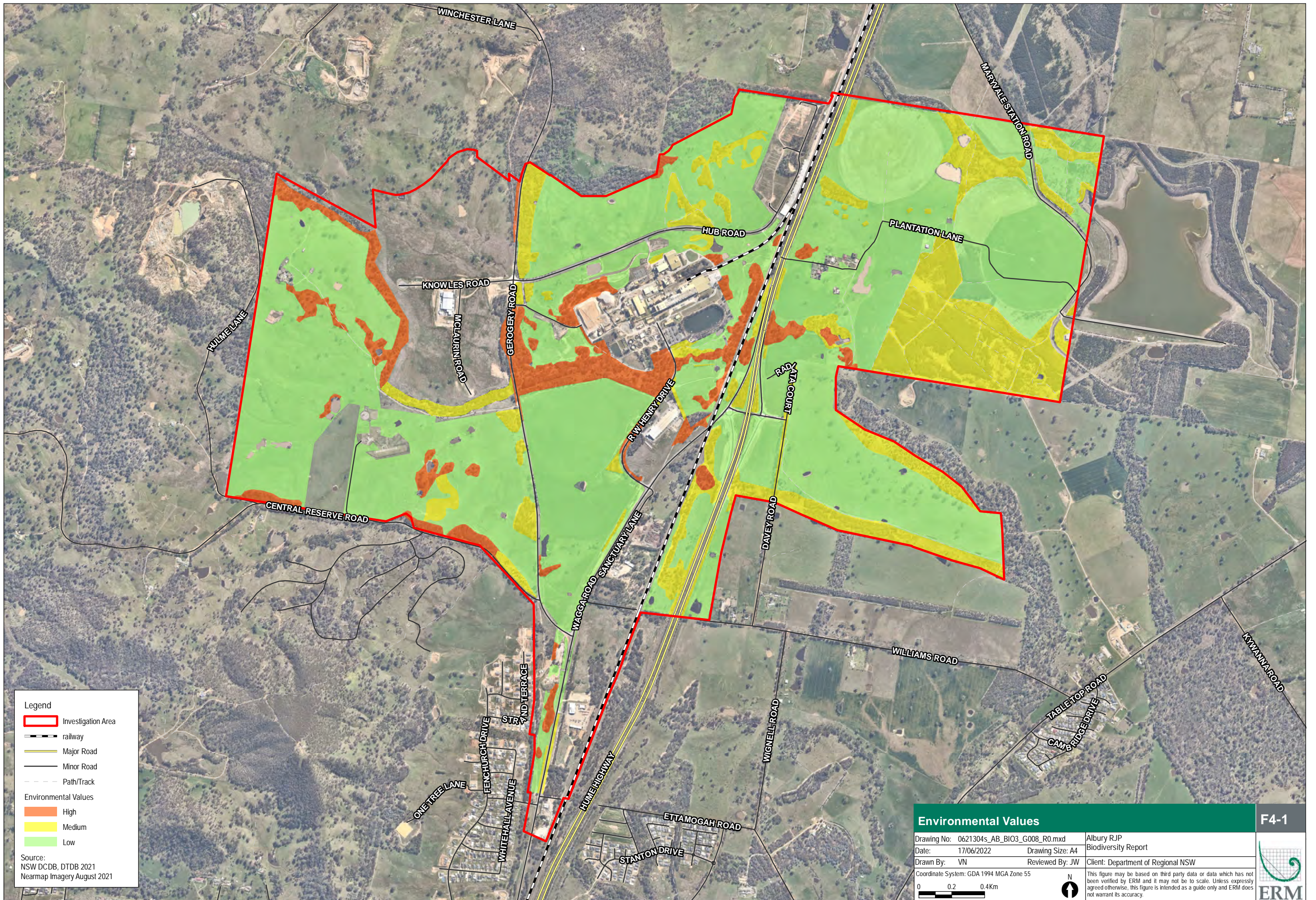
The following section presents the biodiversity values of the Investigation Area based on the findings from the desktop review.

Landscape features contain biodiversity values that are important for the site context and habitat suitability of the preferred structure plan and as such, are used to identify the threatened species likely to occur. The specific landscape feature requirements of Section 3 of the BAM are provided in Table 4-1 below and will be used in any future Biodiversity Development Assessment Report (BDAR) or Biodiversity Certification Assessment Report (BCAR) prepared to support the Master Plan.

**Table 4-1 Landscape Features (Section 3 of the BAM)**

Landscape Feature	Summary Notes
<b>IBRA Bioregion</b> <b>IBRA Subregions</b>	NSW South Western Slopes Lower Slopes & Inland Slopes
<b>(NSW) Mitchell Landscapes</b>	Burrumbuttock Hills and Foothills Oaklands Hills and Foothills
<b>Rivers and Streams</b>	Eight Mile Creek
<b>Wetlands</b>	There are no Ramsar wetlands located at the Investigation Area or within the surrounding 10km buffer.
<b>Connectivity</b>	Important local habitat corridors identified in this biodiversity baseline assessment include continuous patches of habitat large enough to sustain viable populations of threatened flora and fauna and to facilitate dispersal movement. These include a combination of: <ul style="list-style-type: none"> <li>■ Eight Mile Creek;</li> <li>■ Nine Mile creek riparian vegetation;</li> <li>■ Large areas of vegetation that facilitate dispersal and movement between adjacent habitats, such as vegetation to south of the Investigation Area; and</li> <li>■ Areas of mapped TEC.</li> </ul> The vegetation communities range from semi-arid woodlands and dry sclerophyll to pasture and grasslands.
<b>Native Vegetation Cover</b>	Estimated to be 22%. This estimate is applicable to the entire RJP area. The cover for a future BDAR would be calculated in relation to the development areas only.
<b>Areas of geological significance and soil hazard features</b>	Areas of Geological Significance include karst, caves, crevices and cliffs. None of these features occur within the RJP Area.
<b>Areas of outstanding biodiversity value (AOBV)</b>	No AOBV have been identified within the RJP Area.
<b>Patch Size:</b> (the area of intact native vegetation that occurs on the Site and the vegetation within 100 m of the next area of native vegetation in moderate to good condition. It is used to determine the habitat suitability of the Site for threatened species).	100ha The maximum patch size has been used at 100ha due to the presence of several patches of native vegetation within 100m of the next area of native vegetation.





**Legend**

- Investigation Area
- railway
- Major Road
- Minor Road
- Path/Track

**Environmental Values**

- High
- Medium
- Low

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

Environmental Values		F4-1
Drawing No: 0621304s_AB_BIO3_G008_R0.mxd	Albury RJP	
Date: 17/06/2022	Drawing Size: A4	
Drawn By: VN	Reviewed By: JW	Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55		This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
	N 	ERM



## 4. NATIVE VEGETATION

### 4.1 Native Vegetation Extent

The extent of native vegetation within the RJP boundary is 268.7 ha. This was determined through initial analysis of aerial photography, State Vegetation Type Mapping and refined via walking meanders, and Rapid Vegetation Assessments during initial field survey events.

Much of the landscape is replanted with a few old growth trees intermixed. The understorey of wooded areas (old growth or planted) were predominately close to 100% non-native in composition, very similar to the adjoining improved pastures.

### 4.2 PCT Descriptions

Field validation of the existing vegetation mapping has determined that eight plant community types (PCTs) are present within the Investigation Area. Other areas included heavily modified environments such as cropping and pastured areas.

Four of the identified PCTs have associated TECs listed under the BC Act including PCTs 266, 268, 277, and 74. PCTs located within the Investigation Area are presented in Table 5-1 and displayed in Figure 5-1.

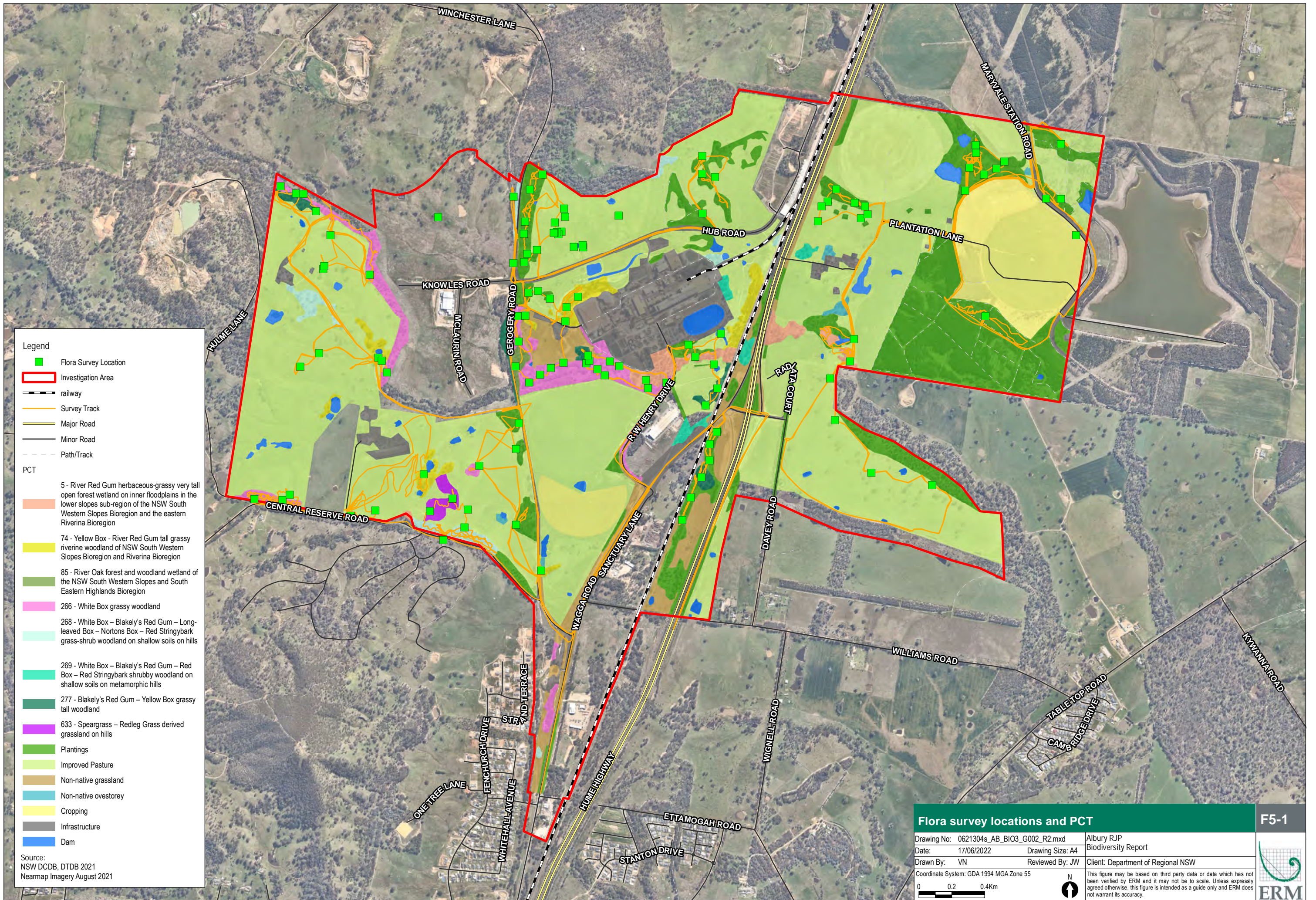
**Table 5-1 PCT Descriptions**

PCT Number	PCT Name	BAM Plots	TEC (BC Act)	TEC (EPBC Act)	Area (ha)
268	White Box – Blakely’s Red Gum – Long-leaved Box – Nortons Box – Red Stringybark grass-shrub woodland on shallow soils on hills	5	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	White Box- Yellow Box- Blakely’s Red Gum Grassy Woodland and Derived Native Grassland	9.1
266	White Box grassy woodland	7, 10, 2	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	White Box- Yellow Box- Blakely’s Red Gum Grassy Woodland and Derived Native Grassland	28.3
277	Blakely’s Red Gum – Yellow Box grassy tall woodland	11, 10	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	White Box- Yellow Box- Blakely’s Red Gum Grassy Woodland and Derived Native Grassland	5.9



PCT Number	PCT Name	BAM Plots	TEC (BC Act)	TEC (EPBC Act)	Area (ha)
269	White Box – Blakely’s Red Gum – Red Box – Red Stringybark shrubby woodland on shallow soils on metamorphic hills	6	-	-	3.9
633	Speargrass – Redleg Grass derived grassland on hills	9	-	-	2.6
74	Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion	3, 8	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	White Box - Yellow Box - Blakely’s Red Gum Grassy Woodland and Derived Native Grassland	14.4
5	River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	1, 12	-	-	9.9
85	River Oak forest and woodland wetland of the NSW South Western Slopes and South Eastern Highlands Bioregion	4	-	-	2.3





**Legend**

- Flora Survey Location
- Investigation Area
- railway
- Survey Track
- Major Road
- Minor Road
- Path/Track

**PCT**

- 5 - River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion
- 74 - Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion
- 85 - River Oak forest and woodland wetland of the NSW South Western Slopes and South Eastern Highlands Bioregion
- 266 - White Box grassy woodland
- 268 - White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills
- 269 - White Box - Blakely's Red Gum - Red Box - Red Stringybark shrubby woodland on shallow soils on metamorphic hills
- 277 - Blakely's Red Gum - Yellow Box grassy tall woodland
- 633 - Speargrass - Redleg Grass derived grassland on hills
- Plantings
- Improved Pasture
- Non-native grassland
- Non-native overstorey
- Cropping
- Infrastructure
- Dam

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

Flora survey locations and PCT		F5-1
Drawing No: 0621304s_AB_BIO3_G002_R2.mxd	Albury RJP	
Date: 17/06/2022	Drawing Size: A4	
Drawn By: VN	Reviewed By: JW	Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55		This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
0 0.2 0.4Km		



### 4.3 Vegetation Integrity Assessment

The vegetation integrity comprises an assessment of the condition of the vegetation within the RJP boundary against the benchmark (best attainable) condition for each PCT and is used to determine the vegetation integrity score. It is calculated for each vegetation zone (areas of vegetation that are the same PCT in the same broad condition). The vegetation integrity score is calculated by the BAM-C and determined by the following factors:

- Vegetation zone: areas of vegetation that are the same PCT in the same broad condition state; and
- Patch size: area of native vegetation in the RJP boundary and areas of native vegetation external to the RJP boundary that it is connected to (including native vegetation with a gap of less than 100 m from the next area of native vegetation). Patch size is calculated separately for each vegetation zone.

There are 10 vegetation zones within the RJP including eight PCTs.

### 4.4 High Threat Weeds

No high threat weeds (HTW), Primary Weeds and Weeds of National Significance (WONS) were recorded during surveys to date.

## 5. THREATENED SPECIES CONSIDERED WITHIN BIODIVERSITY ASSESSMENT

### 5.1 Ecosystem Credit Species

Threatened species assigned to ecosystem credits are those that can be reliably predicted to occur based on the vegetation and/or landscape features within the RJP boundary (also referred to as the 'subject land' within the BAM). It also includes species with a low probability of detection using targeted surveys. They are also known as predicted species and do not require targeted survey. This list is automatically populated in the BAM Calculator and will be relevant to any future BDAR or BCAR.

The following ecosystem credit species were recorded within the Investigation Area based on Bionet records:

- *Artamus cyanopterus cyanopterus* (Dusky Woodswallow);
- *Falco hypoleucos* (Grey Falcon);
- *Glossopsitta pusilla* (Little Lorikeet);
- *Melithreptus gularis gularis* (Black-chinned Honeyeater);
- *Neophema pulchella* (Turquoise Parrot);
- *Petroica boodang* (Scarlet Robin);
- *Petroica phoenicea* (Flame Robin);
- *Saccolaimus flaviventris* (Yellow-bellied Sheathtail Bat);
- *Stagonopleura guttata* (Diamond Firetail).

The following ecosystem credit species were recorded during the November – December 2021 field surveys:

- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle);
- *Nyctophilus sp* (*geoffroyi/gouldii/ corbeni*) – (Long-Eared Bat complex) (species cannot be determined via Anabat recordings);
- *Miniopterus schreibersii oceanensis* (Eastern bentwing bat);
- *Saccolaimus flaviventris* – (Yellow-bellied Sheathtail Bat);
- *Stagonopleura guttata* – (Diamond Firetail);

No ecosystem credit species were recorded during the March – April 2022 field surveys.

### 5.2 Species Credit Species

Threatened species assigned to species credits are those that cannot be confidently predicted to occur by vegetation and landscape features. They are also known as candidate species. The candidate species predicted to occur in the development areas of the RJP boundary by the BAM Calculator are shown in Table 6-2. A number of these species are only classed as candidate species in relation to their breeding habitat, i.e., the species only requires targeted survey if suitable breeding habitat occurs at the RJP boundary. The criteria used to determine likelihood of occurrence is detailed in Table 6-1 below.

**Table 6-1 Likelihood of Occurrence Criteria**

Factor	Preferred habitat exists	Suitable habitat exists <sup>1</sup>	Habitat does not exist <sup>2</sup>
Records within Investigation Area	Known	Known	Known
Records in the locality <sup>3</sup>	Likely	Potential	Unlikely
No records in the locality, but Investigation Area is within known distribution	Potential	Unlikely	Unlikely
No records in the locality, and Investigation Area is outside of distribution	Unlikely	Unlikely	Unlikely

1. *Habitat may be considered suitable, but not preferred.*
2. *Based on sources reviewed and/or field survey results.*
3. *'Locality' refers to a 10 km buffer of the Investigation Area.*

Potential scratchings were recorded within the RJP boundary of *Phascolarctos cinereus* – (Koala) during the November - December 2021 surveys.

While within the EPBC Act modelled distribution, Albury is located within Koala Management Area 7, this region is generally regarded as unsuitable for koalas. Koala populations that do exist in the far west are small, scattered, low-density and mostly restricted to riparian zones and floodplains (Department of Planning and Environment, 2022). Albury is not included in the Koala SEPP due to limited presence of koala food trees and generally unsuitable habitat. Anecdotal evidence from Albury City Council suggests that koala sightings within the locality of the Investigation Area are believed to be from a released koala from the now defunct Ettamogah Sanctuary. For these reasons, koala presence has been classified as potential but will not be considered further.



**Table 6-2 Species Credit Species**

Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	V	-	Found to the east of Dubbo in the Mudgee-Ulan-Gulgong area of the NSW South Western Slopes bioregion. Associated species include <i>Eucalyptus albens</i> , <i>E. blakelyi</i> and <i>Callitris spp.</i> , with an understorey dominated by <i>Cassinia</i> spp. and grasses.	Unlikely	No	No
<i>Anthochaera Phrygia</i> (breeding)	Regent Honeyeater	CE	CE	Mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. 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.	Potential	Yes – Locality (Bionet Record)	Yes
<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V	V	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. Sites where the species is found generally include rocky outcrops or scattered partly buried rocks.	Unlikely	Yes – Locality (Bionet Record)	No
<i>Austrostipa wakoolica</i>	A spear-grass	E	E	Confined to the floodplains of the Murray River tributaries of central-western and south-western NSW, with localities including Manna State Forest, Matong, Lake Tooim, Merran Creek, Tulla, Cunninyeuk and Mairjimmy State Forest. Associated species include <i>Callitris glaucophylla</i> , <i>Eucalyptus microcarpa</i> , <i>E. populnea</i> , <i>Austrostipa eremophila</i> , <i>A. drummondii</i> , <i>Austrodanthonia eriantha</i> and <i>Einadia nutans</i> .	Unlikely	No	No

Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
<i>Burhinus grallarius</i>	Bush Stone-curlew	E	-	Inhabits open forests and woodlands with a sparse grassy groundlayer and fallen timber. Largely nocturnal, being especially active on moonlit nights. Feed on insects and small vertebrates, such as frogs, lizards and snakes. Nest on the ground in a scrape or small bare patch.	Potential	Yes – Locality (Bionet Record)	Yes
<i>Caladenia concolor</i>	Crimson Spider Orchid	E	V	The Crimson Spider-orchid is confined to granite ridge country in the Nail Can Hill Crown Reserve near Albury (where the species was originally described), and from a small Crown land site north-west of Wagga Wagga. Anecdotal evidence from local residents suggests that the species was previously much more common in the Albury area. It may be, however, that the main concentration of the species was in different habitat to that of currently known sites. The habitat for the single known population in NSW of the Crimson Spider-orchid is regrowth woodland on granite ridge country in the Nail Can Hill Crown Reserve outside of Albury.	Unlikely	Yes – Locality (Bionet Record, 2009)	Yes
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	-	In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests.	Potential	Yes – Locality (Bionet Record)	Yes
<i>Calyptrorhynchus lathamii</i>	Glossy Black-Cockatoo	V	-	In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas.	Unlikely	Yes – Locality (Bionet Record)	No

Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V	-	<p>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.</p> <p>Feeds largely on nectar and pollen collected from banksias, eucalypts and bottlebrushes.</p> <p>Also feeds on insects throughout the year; this feed source may be more important in habitats where flowers are less abundant such as wet forests.</p> <p>Shelters in tree hollows, rotten stumps, holes in the ground, abandoned bird-nests, Ringtail Possum (<i>Pseudocheirus peregrinus</i>) dreys or thickets of vegetation, (e.g., grass-tree skirts); nest-building appears to be restricted to breeding females; tree hollows are favoured but spherical nests have been found under the bark of eucalypts and in shredded bark in tree forks.</p>	Potential	Yes – Locality (Bionet Record)	Yes
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	<p>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.</p> <p>Found in well-timbered areas containing gullies.</p>	Unlikely	No	No
<i>Crinia sloanei</i>	Sloane's Froglet	E	E	<p>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 is typically associated with periodically inundated areas in grassland, woodland and disturbed habitats.</p>	Known	Yes (Bionet Record)	Yes

Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
<i>Cullen parvum</i>	Small Scurf-pea	E	-	The Small Scurf-pea is known in NSW from only two herbarium collections; one from Wagga Wagga in 1884 and the other from Jindera (near Albury) in 1967. In known populations in Victoria and NSW, plants are found in grassland, River Red Gum ( <i>Eucalyptus camaldulensis</i> ) Woodland or Box-Gum Woodland, sometimes on grazed land and usually on table drains or adjacent to drainage lines or watercourses, in areas with rainfall of between 450 and 700 mm. This species was previously called <i>Psoralea parva</i> .	Likely	Yes – Locality (Bionet Record)	Yes
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest).	Potential	Yes – Locality (Bionet Record)	Yes
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	This species occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used.	Potential	Yes – Locality (Bionet Record)	Yes
<i>Lathamus discolor</i>	Swift Parrot	E	CE	The Swift Parrot is endemic to south-eastern Australia, breeding only in Tasmania during spring and summer. It migrates to mainland Australia in the autumn and winter months. Within the Hunter and Mid Coast regions, Swift Parrots have been found to forage regularly in Spotted Gum and Swamp Mahogany forests.	Known	Yes (Bionet Record)	Yes
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.	Potential	No	No
<i>Myotis macropus</i>	Southern Myotis	V	-	The Southern Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	Known	Yes	Yes

Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
				Forage over streams and pools catching insects and small fish by raking their feet across the water surface.			
<i>Ninox connivens</i>	Barking Owl	V	-	<p>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 found on these fertile riparian soils.</p> <p>Roost in shaded portions of tree canopies, including tall midstorey trees with dense foliage such as Acacia and Casuarina species. During nesting season, the male perches in a nearby tree overlooking the hollow entrance.</p> <p>Breeding occurs in the hollows of large, old trees. Living eucalypts are preferred though dead trees are also used. Nest sites are used repeatedly over years by a pair, but they may switch sites if disturbed by predators.</p>	Likely	Yes – Locality (Bionet Record)	Yes
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	<p>The species is widely though sparsely distributed in eastern Australia. Prefers mixed species stands with a shrub or Acacia midstorey. Live in family groups of a single adult male one or more adult females and offspring.</p> <p>Require abundant tree hollows for refuge and nest sites.</p>	Known	Yes (Bionet Record)	Yes
<i>Phascolarctos cinereus</i>	Koala	V	E	<p>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.</p> <p>Albury is located within Koala Management Area 7, this region is generally regarded as unsuitable for koalas.</p>	Potential	<p>Yes (potential signs recorded, Bionet Records in locality)</p> <p>Anecdotal evidence from Albury City Council suggest records are potentially from a</p>	No



Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
				Koala populations that do exist in the far west are small, scattered, low-density and mostly restricted to riparian zones and floodplains Anecdotal evidence from Albury City Council suggest records are potentially from a released Koala from Ettamogah Sanctuary.		released Koala from Ettamogah Sanctuary	
<i>Polytelis swainsonii</i>	Superb Parrot	V	V	The Superb Parrot is found throughout eastern inland NSW. On the South-western Slopes their core breeding area is roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west. Birds breeding in this region are mainly absent during winter, when they migrate north to the region of the upper Namoi and Gwydir Rivers. 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. It is estimated that there are less than 5000 breeding pairs left in the wild.	Potential	Yes – Locality (Bionet Record)	No
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	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. The closest recorded camp is located at the Murray River, 9km to the South of the RJP boundary.	Known	Yes (Bionet Record)	Yes
<i>Swainsona recta</i>	Small Purple-pea	E	E	The small purple-pea occurs in the ACT, the central slopes of NSW and in the Mt Chiltern area of Victoria. It was once widespread across south-eastern Australia, however, this small herb with bright purple flowers is now restricted to a few locations. It is associated with the Box Gum Grassy Woodland Threatened Ecological Community. Small Purple-pea occurs predominantly in grassy woodlands, but sometimes extends into grassy open-forest. The tree cover usually includes one or more of the following species:- <i>Eucalyptus blakelyi</i> (Blakely's	Potential	Yes – Locality (Bionet Record)	Yes

Scientific name	Common name	BC Act	EPBC Act	Description	Likelihood of Occurrence within RJP boundary	Recorded Within RJP or Locality	Further Consideration
				Red Gum), <i>E. melliodora</i> (Yellow Box), <i>E. goniocalyx</i> (Long-leaved Box) and <i>E. albens</i> (White Box).			
<i>Swainsona sericea</i>	Silky Swainson-pea	V	-	Silky Swainson-pea has been recorded from the Northern Tablelands to the Southern Tablelands and further inland on the slopes and plains. Found in Box-Gum Woodland in the Southern Tablelands and South West Slopes.	Potential	Yes – Locality (Bionet Record)	Yes
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	Lives in dry eucalypt forests and woodlands from sea level to 1100 m. Can often hunt along the edges of forests, including roadsides. The typical diet consists of tree-dwelling and ground mammals, especially rats. Pairs have a large home-range of 500 to 1000 hectares. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting.	Potential	No	No

Status listing per EPBC and BC Acts: CE/CR = Critically Endangered; E/EN = Endangered; V/VU = Vulnerable.

Sources of habitat information for all species, unless otherwise stated, were gathered from DoEE Conservation Advice, OEH database and SPRAT database: (<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>).



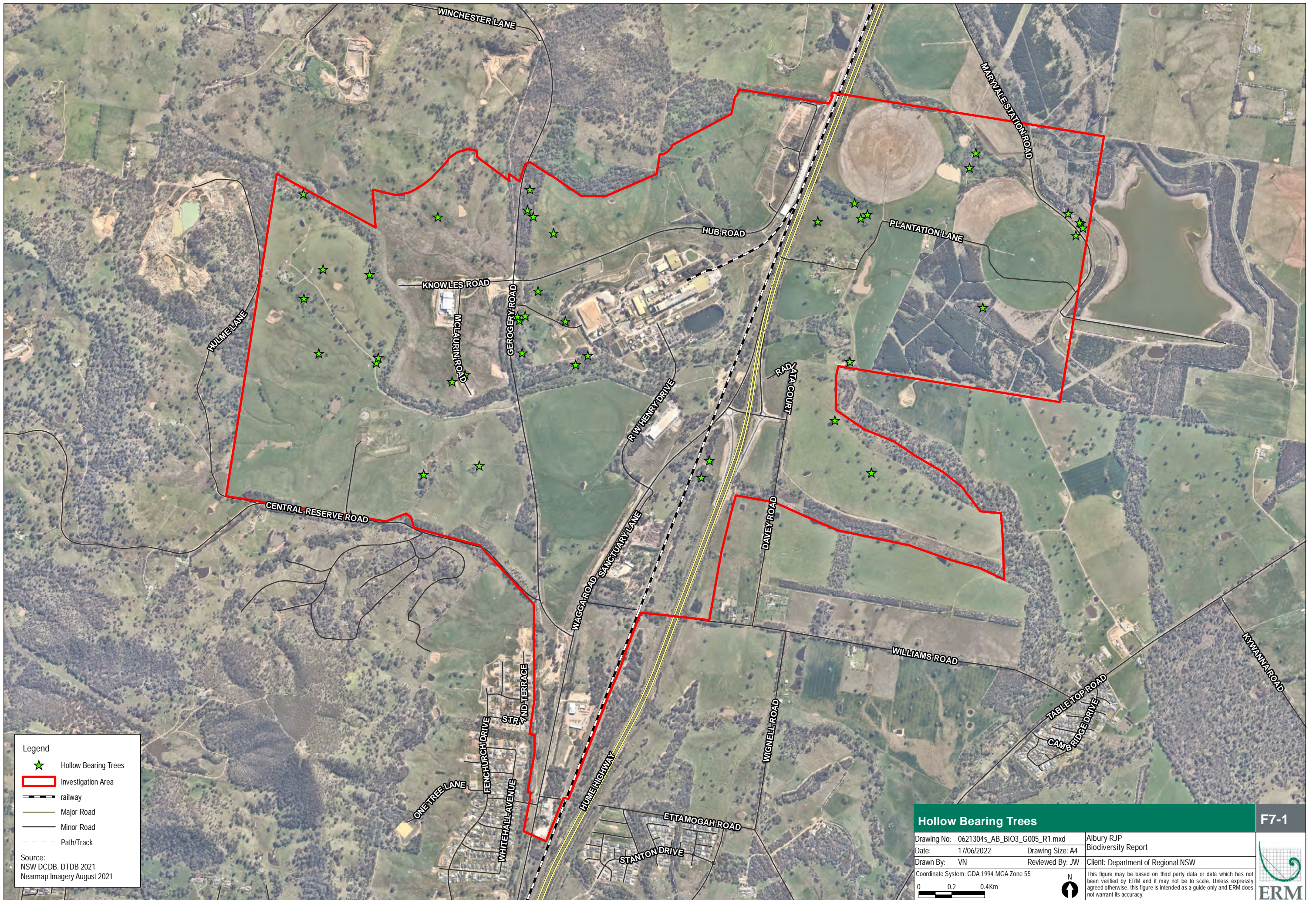
## 6. THREATENED SPECIES HABITAT

Species habitat has been identified through desktop assessment and field-based survey for ten threatened species. Threatened species, records of occurrence and potential habitat within the RJP has been presented below in Table 7-1 and mapped in Figure 7-2 and Figure 7-3. Hollow bearing trees have been mapped in Figure 7-1. This list of species includes species credit and ecosystem credit species, with those ecosystem species confirmed to occur on in the Investigation Area mapped to inform constraints so to minimise impacts to important features.

**Table 7-1 Threatened fauna habitat**

Species	Common name	Records and Observations	Habitat	BC Act Status
<i>Lathamus discolor</i>	Swift Parrot	Bionet – 1 record	PCT 277 PCT 268 PCT 269	Critically Endangered
<i>Stagonopleura guttata</i>	Diamond Firetail	Recorded within one site in the Investigation Area	PCT 268 PCT 266 PCT 277 PCT 269 PCT 74 PCT 5	Vulnerable
<i>Pteropus poliocephalus</i>	Grey Headed Flying Fox	Bionet – 2 records	PCT 277 PCT 269	Vulnerable
<i>Petaurus norfolcensis</i>	Squirrel Glider	Bionet – eight records	PCT 277 PCT 268 PCT 269 PCT 85	Vulnerable
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle (foraging only)	Recorded within two sites within the Investigation Area	PCT 277 PCT 266 PCT 268	Vulnerable
<i>Miniopterus schreibersii oceanensis</i>	Eastern bentwing bat (foraging only)	Recorded at three sites within the Investigation Area	PCT 277 PCT 269 PCT 266 PCT 85	Vulnerable
<i>Myotis macropus</i>	Southern Myotis	Recorded within two sites within the Investigation Area	PCT 85 PCT 336	Vulnerable
<i>Nyctophilus sp.</i>	Long-eared Bat complex	Recorded at three sites within the Investigation Area	PCT 266	Potentially Vulnerable
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail Bat	Recorded at one site within the Investigation Area	PCT 277 PCT 269	Vulnerable
<i>Crinia sloanei</i>	Sloane's froglet	Records within locality	PCT 5 PCT 74	Vulnerable





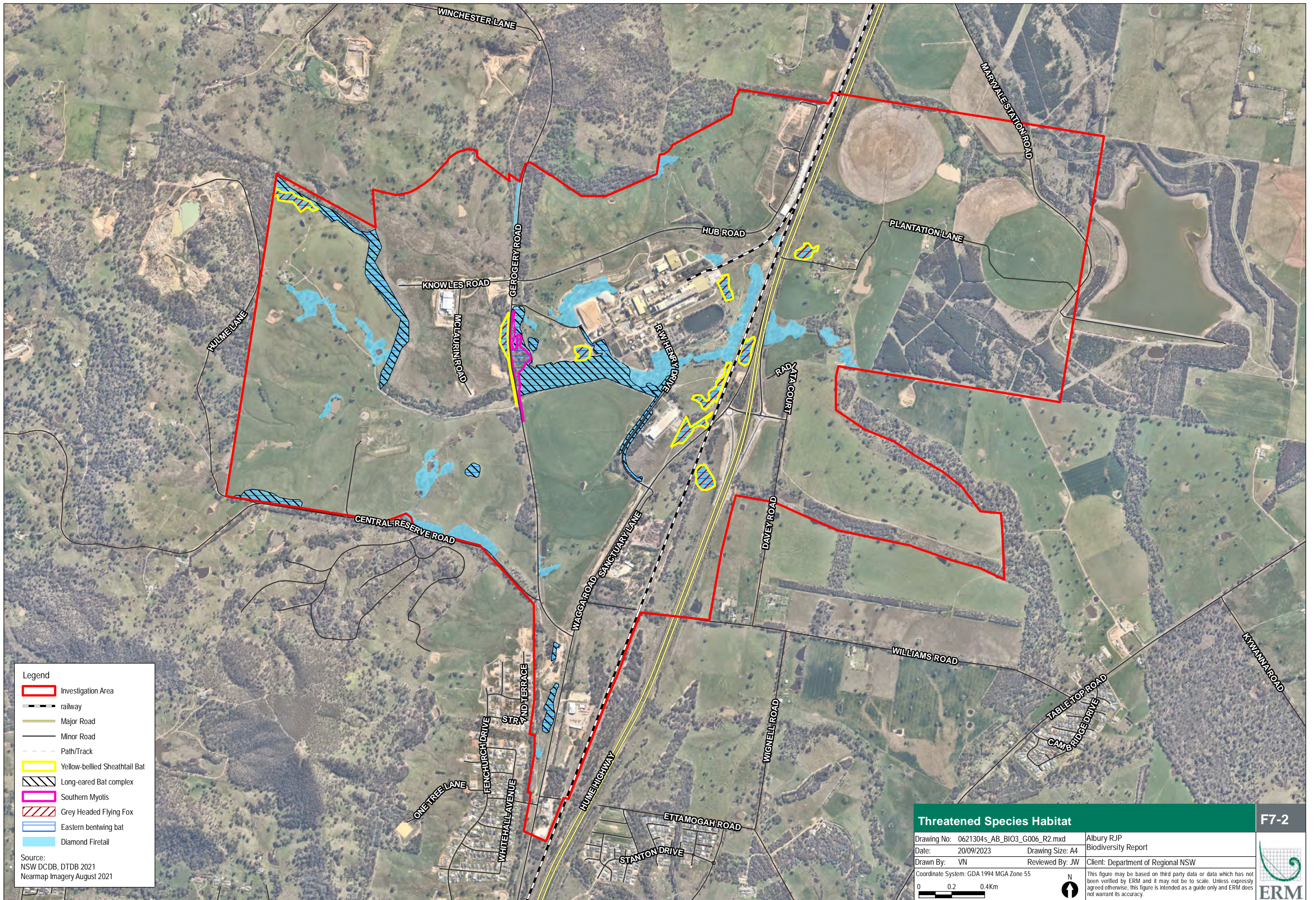
**Legend**

- ★ Hollow Bearing Trees
- Investigation Area
- railway
- Major Road
- Minor Road
- Path/Track

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

Hollow Bearing Trees		F7-1
Drawing No: 0621304s_AB_BIO3_G005_R1.mxd	Albury RJP Biodiversity Report	
Date: 17/06/2022	Drawing Size: A4	
Drawn By: VN	Reviewed By: JW	Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55		
0 0.2 0.4Km	N 	This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.





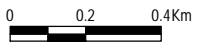
**Legend**

- Investigation Area
- railway
- Major Road
- Minor Road
- Path/Track
- Yellow-bellied Sheathtail Bat
- Long-eared Bat complex
- Southern Myotis
- Grey Headed Flying Fox
- Eastern bentwing bat
- Diamond Firetail

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

**Threatened Species Habitat**

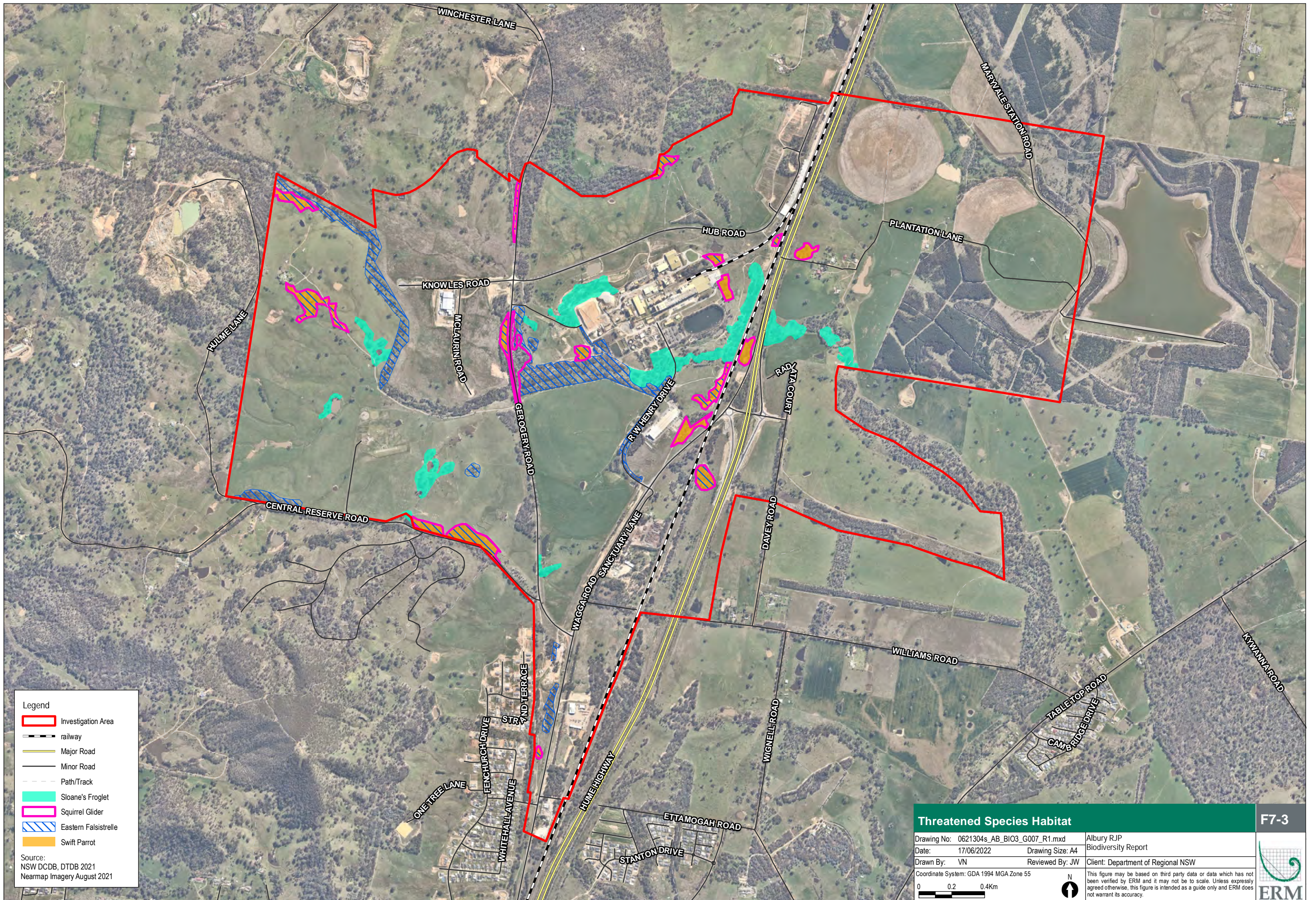
Drawing No: 0621304s_AB_BIO3_G006_R2.mxd	Albury RJP
Date: 20/09/2023	Blodiversity Report
Drawn By: VN	Reviewed By: JW
Client: Department of Regional NSW	
Coordinate System: GDA 1994 MGA Zone 55	This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.



F7-2







**Legend**

- Investigation Area
- railway
- Major Road
- Minor Road
- Path/Track
- Sloane's Froglet
- Squirrel Glider
- Eastern Falsistrelle
- Swift Parrot

Source:  
NSW DCDB, DTDB 2021  
Nearmap Imagery August 2021

Threatened Species Habitat		F7-3
Drawing No: 0621304s_AB_BIO3_G007_R1.mxd	Albury RJP Biodiversity Report	
Date: 17/06/2022	Drawing Size: A4	
Drawn By: VN	Reviewed By: JW	Client: Department of Regional NSW
Coordinate System: GDA 1994 MGA Zone 55		
<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 50px; border-bottom: 1px solid black; margin-right: 5px;"></div> <span style="font-size: x-small;">0    0.2    0.4Km</span> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <span style="font-size: x-small; margin-right: 5px;">N</span> <span style="font-size: 20px; margin-right: 5px;">↑</span> </div>	<p>This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.</p>



## 7. POTENTIAL SERIOUS AND IRREVERSIBLE IMPACTS (SAII)

Species and ecological communities with a 'very high' biodiversity risk weighting are potential serious and irreversible impact (SAII) entities. Principles for determining serious and irreversible impacts are set out in clause 6.7 of the Biodiversity Conservation Regulation 2017. An impact is to be regarded as serious and irreversible if it is likely to contribute significantly to the risk of a threatened species or ecological community becoming extinct because:

- it will cause a further decline of a species or ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline;
- it will further reduce the population size of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very small population size;
- it is an impact on the habitat of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution; and
- the impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.

Of the species identified in the BAM-C as being associated with the Albury RJP area, the following SAII are considered to have the potential to occur in the development areas:

- White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland;
- Crimson Spider Orchid (*Caladenia concolor*);
- Large-eared Pied Bat (*Chalinolobus dwyeri*);
- Regent Honeyeater (*Anthochaera phrygia*); and
- Swift Parrot (*Lathamus discolor*).

The approval authority is responsible for deciding whether an impact is serious and irreversible. This decision is to be made in accordance with principles set out in clause 6.7 of the Biodiversity Conservation Regulation 2017. The approval authority must take any impacts to these species into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if approval is to be granted.

The Master Plan for the RJP Investigation Area has responded to these SAII features by allowing for the retention of the majority of the mapped TEC and habitats for these species within conservation zones.

## 8. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

The EPBC Act requires approval of the Commonwealth Minister for the Environment for actions that are likely to have a significant impact on Matters of National Environmental Significance (MNES) as assessed in accordance with the EPBC Significant Impact Guidelines 1.1. Any proposed action that is expected to have an impact on MNES must be referred to the Minister for assessment under the EPBC Act, or assessed under the existing bilateral agreement, or accredited process between the Commonwealth and the State of New South Wales (NSW).

Based on our assessment to date, it is likely that the Master Plan will be referred and likely to be assessed under a bilateral agreement based on the following listed MNES provided in Table 9-1.

**Table 9-1 Summary of MNES**

Matter of National Environmental Significance	Impact
<p><b>World Heritage Properties</b> There are no World Heritage Properties located at the Investigation Area or within the surrounding 10km buffer.</p>	Nil
<p><b>National Heritage Places</b> There are no National Heritage Places located at the Investigation Area or within the surrounding 10km buffer.</p>	Nil
<p><b>Wetlands of International Significance (Ramsar)</b> There are no Ramsar wetlands located at the Investigation Area or within the surrounding 10km buffer.</p>	Nil
<p><b>Threatened Species or Ecological Communities listed in the EPBC Act</b> Threatened species have been recorded within the Investigation Area. One EPBC listed TEC is present or considered likely to occur within the Site.</p>	Refer to Table 6-2 of this report for EPBC Act listed species
<p><b>Migratory Species listed in the EPBC Act</b> Migratory species have been recorded within the Investigation Area.</p>	Nil
<p><b>Commonwealth Marine Environment</b> There are no Commonwealth marine areas located within the Investigation Area or within the surrounding 10km buffer.</p>	Nil
<p><b>Nuclear Actions</b> The Investigation Area does not involve nuclear actions and is not located within a 10km buffer of an area of nuclear action.</p>	Nil
<p><b>Great Barrier Reef Marine Park</b> The Investigation Area is not located within the Great Barrier Reef Marine Park or within a 10km buffer.</p>	Nil
<p><b>A water resource, in relation to coal seam gas development and large coal mining development</b> The Investigation Area is not associated with coal seam gas development and is not a coal mining activity.</p>	Nil



## 9. SUMMARY AND RECOMMENDATIONS

Direct and indirect impacts to threatened species as a result of potential habitat clearance have been considered in the development of the Draft Master Plan. Field surveys were completed over two periods November – December 2021 and March – April 2022. The surveys confirmed the follow areas of biodiversity significance within the RJP Investigation Area:

- Native vegetation communities conforming to NSW Plant Community Types;
- Mapped extents of Threatened Ecological Communities;
- Map areas of potential threatened species habitat within the RJP;
- Collect information on and record habitat features such as hollow bearing trees; and
- Survey and record fauna species present with in the locality.

These field surveys can be used to support any future development application, Biodiversity Development Assessment Report (BDAR) or Biodiversity Certification Assessment Report (BCAR) depending on the approval pathways that are chosen for the implementation of the RJP Master Plan.

### 9.1 Master Plan Responses to Biodiversity Conservation

Vegetated areas within the RJP boundary contain areas of high biodiversity value including, which have been targeted for conservation, by including the following areas in existing conservation zones, or a series of proposed new conservation zones:

- Potential occurrence of NSW and EPBC Act listed Threatened Ecological Communities, specifically White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland;
- Potential Sloane's Froglet habitat;
- Habitat for species credit species (Swift Parrot, Grey Headed Flying Fox, Squirrel Glider);
- Threatened species habitat (Eastern False Pipistrelle, Eastern Bentwing Bat, Southern Myotis, Long-eared Bat Complex, Yellow-bellied Sheathtail Bat, Diamond Firetail);
- Vegetated habitat corridors and linkages; and
- Serious and Irreversible Impacts (SAII) entities including:
  - Known occurrence of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland;
  - Potential habitat for Crimson Spider Orchid (*Caladenia concolor*);
  - Potential habitat for Large-eared Pied Bat (*Chalinolobus dwyeri*);
  - Potential habitat for Regent Honeyeater (*Anthochaera phrygia*); and
  - Potential habitat for Swift Parrot (*Lathamus discolor*).

The Draft Master Plan for the Albury RJP has been produced and informed by environmental concepts that foster the preservation of local biodiversity and threatened species. The current draft master plan for the Albury RJP has responded to the identified biodiversity constraints by proposing appropriate land use zones for the conservation of areas of mapped high value.

The proposed wildlife habitat corridors create a network of vegetation linkage throughout the Investigation Area by utilising existing riparian corridors and enhancing existing patches of vegetation within the RJP. The habitat corridors connect to a large patch of vegetation near Douglas Gully to the West leading onto Nail Can Hill reserve in the south west and wetlands in the south. This Master Plan has been developed through a series of workshops and avoids large areas of important habitat values, whilst also proposing new conservation zones to provide opportunities to improve ecological connectivity and providing opportunities for restoration and enhancement.

There are areas of new proposed conservation zone that contain native vegetation, TECs and potential threatened species habitat in a lower ecological condition. These areas should be investigated as potential biodiversity stewardship sites for the generation of any offset credits that are required for the development in land use zones proposed for intensification. Whilst the majority of the high ecological values across the RJP Investigation Area have been protected in conservation zones, there will be some impacts to biodiversity values which can be offset within the RJP.

There is a potential for the Master Plan to be subject to a biodiversity certification process under the BC Act, which will further lock in areas of development and areas where offsets may be able to be generated within the RJP. This process will depend on the type and area of proposed developments in the RJP, however this report identifies how biodiversity values have been protected and avoided across the Investigation Area. The Master Plan provides an overarching plan that can be developed into a biocertification proposal for the RJP.

## 9.2 Avoidance and mitigation measures

The BAM requires that the avoid, minimise, offset hierarchy is applied to development projects and therefore, any future BDAR or BCAR will be required to outline measures taken to avoid impacts to biodiversity and provide justification where avoidance is not applied. This is clearly evidenced through the Master Planning and Design process and workshops undertaken to inform a final Master Plan for the RJP development.

Further avoidance of biodiversity values may be achievable through refinement of the Master Plan during future phases and the design of individual developments within land uses proposed for intensification. This may include retention of areas of individual habitat trees, appropriate use of vegetated or landscaped buffers when developments are adjacent to conservation zones, management and treatment of stormwater quality and .

Impacts to high biodiversity values, particularly in areas that support multiple threatened species (including potential Serious and Irreversible Impacts), should be identified and avoided where possible. These areas will potentially contribute significantly to the offset obligation and cost associated with the development and therefore, further avoidance would reduce the ecosystem and species credit requirements and costs.



## REFERENCES

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## **APPENDIX A      PCT DESCRIPTIONS**



<b>White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion</b>		
Vegetation formation	Grassy Woodlands	
Vegetation class	Western Slopes Grassy Woodlands	
Vegetation type	PCT ID	268
	Common Community Name	White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland
Approximate extent within the development site	9.1 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 268. Open forest dominated by <i>Eucalyptus albens</i> and <i>Eucalyptus blakelyi</i> . <i>Eucalyptus sideroxylon</i> also present	
<i>TEC Status</i>	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 (BC Act, CE)  White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act, CE)	
<i>Estimate of percent cleared within NSW</i>	63%%	

<b>White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion</b>		
Vegetation formation	Grassy Woodlands	
Vegetation class	Western Slopes Grassy Woodlands	
Vegetation type	PCT ID	266
	Common Community Name	White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
Approximate extent within the development site	28.3 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 266. Woodland dominated by <i>Eucalyptus albens</i> with <i>Eucalyptus blakelyi</i> and <i>Eucalyptus meliodora</i> also present as minor components. A sparse shrub layer with grass cover largely dominated by <i>Microlaena stipoides</i> .	
<i>TEC Status</i>	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EBPC Act, CE)  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 (BC Act, CE)	
<i>Estimate of percent cleared within NSW</i>	94%	

<b>Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion</b>		
Vegetation formation	Grassy Woodlands	
Vegetation class	Western Slopes Grassy Woodlands	
Vegetation type	PCT ID	277
	Common Community Name	Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Approximate extent within the development site	5.9 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 277. Woodland dominated by <i>Eucalyptus blakelyi</i> and <i>Eucalyptus meliodora</i> . A sparse shrub layer with grass cover largely dominated by <i>Austrostipa scabra</i> .	
<i>TEC Status</i>	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 (BC Act, CE) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act, CE)	
<i>Estimate of percent cleared within NSW</i>	94%	

<b>White Box - Blakely's Red Gum - Red Box - Red Stringybark shrubby woodland on shallow soils on metamorphic hills in the Albury region of the NSW South Western Slopes Bioregion</b>		
Vegetation formation	Dry Sclerophyll Forests	
Vegetation class	Upper Riverina Dry Sclerophyll Forests	
Vegetation type	PCT ID	269
	Common Community Name	White Box - Blakely's Red Gum - Red Box - Red Stringybark shrubby woodland on shallow soils on metamorphic hills in the Albury region of the NSW South Western Slopes Bioregion
Approximate extent within the development site	3.9 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 269. Woodland dominated by <i>Eucalyptus albens</i> and <i>Eucalyptus blakelyi</i> with <i>Eucalyptus polyanthemos</i> also present as a minor component.	
<i>TEC Status</i>	-	
<i>Estimate of percent cleared within NSW</i>	78%	
<i>Examples</i>		



<b>Speargrass - Redleg Grass derived grassland on hills in the Jindera to Holbrook region, southern NSW South Western Slopes Bioregion</b>		
Vegetation formation	Grasslands	
Vegetation class	Western Slopes Grasslands	
Vegetation type	PCT ID	633
	Common Community Name	Speargrass - Redleg Grass derived grassland on hills in the Jindera to Holbrook region, southern NSW South Western Slopes Bioregion
Approximate extent within the development site	2.6 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 633. Grassland dominated by <i>Austrostipa scapra</i> with <i>Cynodon dactylon</i> and <i>Panicum effusum</i> also present.	
<i>TEC Status</i>	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 (BC Act, CE) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act, CE)	
<i>Estimate of percent cleared within NSW</i>	75%	
<i>Examples</i>		

<b>River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.</b>		
Vegetation formation	Forested Wetlands	
Vegetation class	Inland Riverine Forests	
Vegetation type	PCT ID	5
	Common Community Name	River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
Approximate extent within the development site	9.2 ha	
Species relied upon for PCT identification	Species name	Relative abundance
	<i>Eucalyptus camaldulensis</i>	18
	<i>Eucalyptus cinerea</i>	4
	<i>Eucalyptus sideroxylon</i>	2
	<i>Bothriochloa macra</i>	40
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 5. Open forest dominated by <i>Eucalyptus camaludensis</i> . A sparse shrub layer with grass cover largely dominated by <i>Bothriochloa macra</i> .	
<i>TEC Status</i>		
<i>Estimate of percent cleared within NSW</i>	40%	
<i>Examples</i>		

<b>River Oak forest and woodland wetland of the NSW South Western Slopes and South Eastern Highlands Bioregion</b>		
Vegetation formation	Forested Wetlands	
Vegetation class	Eastern Riverine Forests	
Vegetation type	PCT ID	85
	Common Community Name	River Oak forest and woodland wetland of the NSW South Western Slopes and South Eastern Highlands Bioregion
Approximate extent within the development site	2.3 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 85. Woodland/wetland with <i>Eucalyptus viminalis</i> , <i>Eucalyptus blakelyi</i> and <i>Eucalyptus meliodora</i>	
<i>TEC Status</i>	-	
<i>Estimate of percent cleared within NSW</i>	73%	
<i>Examples</i>		

<b>Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion</b>		
Vegetation formation	Grassy Woodlands	
Vegetation class	Floodplain Transition Woodlands	
Vegetation type	PCT ID	74
	Common Community Name	Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion
Approximate extent within the development site	14.4 ha	
<i>Justification of evidence used to identify the PCT</i>	The presence of the following species was used to classify PCT 74. Tall woodland dominated by <i>Eucalyptus meliodora</i> , with <i>Eucalyptus melliodora</i> , grass cover included <i>Panicum effusum</i> and <i>Bothriochloa macra</i> .	
<i>TEC Status</i>	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 (BC Act, CE) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act, CE)	
<i>Estimate of percent cleared within NSW</i>	73%	
<i>Examples</i>		



## **APPENDIX B      FLORA SPECIES LIST**

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Exotic
<i>Acacia falcata</i>	Sally Wattle	-	-	
<i>Acacia sp.</i>		-	-	
<i>Alternanthera angustifolia</i>	Narrow-Leaved Joyweed	-	-	
<i>Aristida sp.</i>		-	-	
<i>Austrodanthera bipartita</i>	Wallaby Grass	-	-	
<i>Austrostipa scabra</i>	Rough Speargrass	-	-	
<i>Bothriochloa decipiens</i>	Pitted Bluegrass	-	-	
<i>Bothriochloa macra</i>	Red Grass	-	-	
<i>Brassica napus</i>	Swede	-	-	
<i>Bromus catharticus</i>	Prairie Grass	-	-	
<i>Chloris ventricosa</i>	Umbrella Grass	-	-	
<i>Cirsium vulgare</i>	Spear Thistle	-	-	Y
<i>Cucumis myriocarpus</i>	Paddy Melon	-	-	Y
<i>Cynodon dactylon</i>	Star Grass	-	-	
<i>Cyperus sp.</i>		-	-	
<i>Dandelion</i>	Dandelion	-	-	
<i>Eucalyptus albens</i>	White Box	-	-	
<i>Eucalyptus camaldulensis</i>	Flooded Gum	-	-	
<i>Echinopogon nigricans</i>	Black Heads	-	-	
<i>Einadia hastata</i>	Berry Saltbush	-	-	
<i>Elaeocarpus sphacelata</i>		-	-	
<i>Eleusine indica</i>	Crow's-Foot Grass	-	-	
<i>Enteropogon acicularis</i>		-	-	
<i>Eragrostis sp.</i>		-	-	
		-	-	
<i>Eucalyptus blakeyi</i>	Blakey's red Gum	-	-	
<i>Eucalyptus camaldulensis</i>	Flooded Gum	-	-	
<i>Eucalyptus cinerea</i>	Beechworth Silver Stringybark	-	-	
<i>Eucalyptus melliodora</i>	Honey Box	-	-	
<i>Eucalyptus sideroxylon</i>	Ironbark	-	-	
<i>Eucalyptus viminalis</i>	White Gum	-	-	
<i>Geranium sp.</i>		-	-	
<i>Juncus kraussii</i>	Sea Rush	-	-	
<i>Lepidium sp.</i>		-	-	
<i>Lolium perenne</i>		-	-	
<i>Maireana sp.</i>		-	-	
<i>Mentha sp.</i>		-	-	



Scientific Name	Common Name	BC Act Status	EPBC Act Status	Exotic
<i>Microlaena stipiodes</i>	Rice Grass	-	-	
<i>Panicum effusum</i>	Hairy Panic Grass	-	-	
<i>Paspalum dilatatum</i>	Dallis grass	-	-	
<i>Persicaria sp.</i>		-	-	
<i>Phalaris canariensis</i>	Canary grass	-	-	Y
<i>Pimelea sp.</i>		-	-	
<i>Plantago sp.</i>		-	-	
<i>Rhytidosperra bipartitum</i>	Wallaby Grass	-	-	
<i>Rosa rubiginosa</i>	Sweet-Brier	-	-	Y
<i>Rumex sp.</i>		-	-	
<i>Silybum marianum</i>	Milk thistle	-	-	Y
<i>Solanum nigrum</i>	Black Berry Nightshade	-	-	Y
<i>Sonchus oleraceus</i>	sowthistle	-	-	Y
<i>Sporobolus jacquemontii</i>	Rats Tail Grass	-	-	Y
<i>Swamp dock</i>	Swamp dock	-	-	
<i>Taraxacum sp.</i>		-	-	
<i>Teraxacum spp.,</i>		-	-	
<i>Trifolium repens</i>	White Clover	-	-	Y
<i>Vittadinia sp.</i>		-	-	
<i>Wahlwalia proluta</i>	Rigid Panic	-	-	
<i>Xanthium spinosum</i>	Bathurst Burr	-	-	Y

## **APPENDIX C      FAUNA SPECIES LIST**



Scientific Name	Common Name	Number Observed	Method	BC Act Status	EPBC Act Status
<b>Birds</b>					
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped thornbill	1	Observed	-	-
<i>Acanthiza nana</i>	Yellow Thornbill	8	Observed	-	-
<i>Anas castanea</i>	Chestnut Teal	1	Opportunistic - Observed	-	-
<i>Anas gracilis</i>	Grey Teal	1	Observed	-	-
<i>Anas superciliosa</i>	Pacific Black Duck	10	Observed	-	-
<i>Anthochaera carunculata</i>	Red Wattlebird	26	Observed	-	-
<i>Anthochaera chrysoptera</i>	Little Wattlebird	1	Observed	-	-
<i>Ardea alba</i>	Great Egret	1	Observed	-	-
<i>Ardea intermedia</i>	Intermediate Egret	1	Observed	-	-
<i>Ardea pacifica</i>	White-necked Heron	1	Observed Flying	-	-
<i>Aythya australis</i>	Hardhead	4	Observed	-	-
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	1	Call Heard	-	-
<i>Cacatua sanguinea</i>	Little Corella	3	Observed and Observed Flying	-	-
<i>Chenonetta jubata</i>	Australian Wood Duck	43	Observed and Observed Flying	-	-
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	6	Observed and Call Heard	-	-
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	15	Observed , Call Heard and Observed Flying	-	-
<i>Corcorax melanorhamphos</i>	White-winged Chough	23	Observed	-	-
<i>Corvus coronoides</i>	Australian Raven	6	Observed Flying and Call Heard	-	-
<i>Corvus mellori</i>	Little Raven	8	Observed and Call Heard	-	-
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	8	Observed and Call Heard	-	-
<i>Egretta novaehollandiae</i>	White-faced Heron	3	Observed Flying	-	-

Scientific Name	Common Name	Number Observed	Method	BC Act Status	EPBC Act Status
<i>Elanus axillaris</i>	Black-shouldered Kite	1	Observed Flying	-	-
<i>Eolophus roseicapilla</i>	Galah	11	Observed Flying	-	-
<i>Eurystomus orientalis</i>	Dollarbird	1	Observed	-	-
<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit	2	Observed	-	-
<i>Fulica atra</i>	Eurasian Coot	2	Observed	-	-
<i>Gerygone fusca</i>	Western gerygone	2	Call Heard	-	-
<i>Grallina cyanoleuca</i>	Magpie-lark	17	Observed and Call Heard	-	-
<i>Gymnorhina tibicen</i>	Australian Magpie	35	Observed and Call Heard	-	-
<i>Hirundo neoxena</i>	Welcome Swallow	7	Observed Flying	-	-
<i>Malurus cyaneus</i>	Superb Fairy-wren	23	Observed	-	-
<i>Manorina melanocephala</i>	Noisy Miner	32	Observed and Call Heard	-	-
<i>Merops ornatus</i>	Rainbow Bee-eater	3	Observed	-	-
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	1	Observed	-	-
<i>Neochmia temporalis</i>	Red-browed Finch	6	Observed	-	-
<i>Northiella haematogaster</i>	Blue Bonnet	6	Observed	-	-
<i>Ocyphaps lophotes</i>	Crested Pigeon	6	Observed and Observed Flying	-	-
<i>Pachycephala rufiventris</i>	Rufous Whistler	4	Call Heard	-	-
<i>Pardalotus striatus</i>	Striated Pardalote	1	Observed	-	-
<i>Passer domesticus</i>	House Sparrow*	3	Observed	-	-
<i>Pelecanus conspicillatus</i>	Australian Pelican	1	Observed Flying	-	-
<i>Petrochelidon nigricans</i>	Tree Martin	13	Observed Flying	-	-



Scientific Name	Common Name	Number Observed	Method	BC Act Status	EPBC Act Status
<i>Philemon corniculatus</i>	Noisy Friarbird	3	Observed	-	-
<i>Platycercus adscitus</i>	Pale-headed Rosella	2	Observed	-	-
<i>Platycercus caledonicus</i>	Green Rosella	7	Observed	-	-
<i>Platycercus elegans</i>	Crimson Rosella	2	Observed	-	-
<i>Platycercus eximius</i>	Eastern Rosella	30	Observed	-	-
<i>Porphyrio porphyrio</i>	Purple Swamphen	1	Observed	-	-
<i>Psephotus haematonotus</i>	Red-rumped Parrot	18	Observed and Observed Flying	-	-
<i>Ptilotula fusca</i>	Fuscous Honeyeater	3	Observed	-	-
<i>Ptilotula penicillata</i>	White-plumed Honeyeater	9	Observed	-	-
<i>Rhipidura albiscapa</i>	Grey Fantail	7	Observed and Call Heard	-	-
<i>Rhipidura leucophrys</i>	Willie Wagtail	10	Observed and Call Heard	-	-
<i>Sericornis frontalis</i>	White-browed Scrubwren	1	Observed	-	-
<i>Smicromis brevirostris</i>	Weebill	5	Observed	-	-
<i>Stagonopleura guttata</i>	Diamond Firetail	1	Observed and Nest Observed	Vulnerable	-
<i>Sturnus vulgaris</i>	Common Starling*	34	Observed and Observed Flying	-	-
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe	2	Observed	-	-
<i>Threskiornis moluccus</i>	Australian White Ibis	3	Observed and Observed Flying	-	-
<i>Todiramphus sanctus</i>	Sacred Kingfisher	9	Observed and Call Heard	-	-
<i>Turdus merula</i>	Eurasian Blackbird*	4	Observed	-	-
<i>Vanellus miles novaehollandiae</i>	Spur-winged Plover	1	Call Heard	-	-

Scientific Name	Common Name	Number Observed	Method	BC Act Status	EPBC Act Status
<i>Zanda funereus</i>	Yellow-tailed Black-cockatoo	2	Observed Flying	-	-
<i>Zosterops lateralis</i>	Silvereye	4	Observed	-	-
<b>Amphibians</b>					
<i>Crinia parinsignifera</i>	Eastern Sign-bearing frog	4	Recording	-	-
<i>Crinia signifera</i>	Common Froglet	2	Recording	-	-
<i>Limnodynastes dumerilli</i>	Pobblebonk	1	Heard and Observed	-	-
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog	4	Recording	-	-
<i>Litoria peronii</i>	Peron's Tree Frog	3	Recording and Observed	-	-
<i>Uperoleia leavigata</i>	Smooth Toadlet	2	Recording	-	-
<b>Mammals</b>					
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	Positive @ 3 sites	Anabat Recording	-	-
<i>Chalinolobus morio</i>	Chocolate Wattled Bat	Positive @ 3 sites	Anabat Recording	-	-
<i>Dama dama</i>	Fallow Deer*	3	Observed	-	-
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	Positive @ 2 sites	Anabat Recording	Vulnerable	-
<i>Lepus capensis</i>	Brown Hare*	1	Observed	-	-
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	5 (3 Juveniles)	Observed	-	-
<i>Miniopterus oriannae oceanensis</i>	Eastern Bentwing Bat	Positive @ 3 sites	Anabat Recording	Vulnerable	-
<i>Myotis macropus</i>	Southern Myotis	Positive @ 2 sites	Anabat Recording	Vulnerable	-
<i>Nyctophilus sp (geoffroyi/gouldii/corbeni)</i>	Long-eared Bat complex	Positive @ 3 sites	Anabat Recording	Vulnerable ( <i>N. corbeni</i> )	Vulnerable ( <i>N. corbeni</i> )
<i>Oryctolagus cuniculus</i>	Rabbit*	1	Observed and Warren Observed	-	-
<i>Ozimops petersi</i>	Inland Freetailed Bat	Positive @ 1 site & Probable @ 1 site	Anabat Recording	-	-



Scientific Name	Common Name	Number Observed	Method	BC Act Status	EPBC Act Status
<i>Ozimops planiceps</i>	South-eastern Freetail Bat	Positive @ 3 sites	Anabat Recording	-	-
<i>Phascolarctos cinereus</i>	Koala	Scratches on Tree Trunk	Observed	-	-
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail Bat	Positive @ 1 site	Anabat Recording	Vulnerable	-
<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat	Positive @ 3 sites	Anabat Recording	-	-
<i>Scotorepens orion</i>	Eastern Broad-nosed Bat	Positive @ 2 sites & Probable @ 1 site	Anabat Recording	-	-
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	Scratchings	Observed	-	-
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	4	Observed	-	-
<i>Vespadelus darlingtoni</i>	Large Forest Bat	Positive @ 3 Sites	Anabat Recording	-	-
<i>Vespadelus regulus</i>	Southern Forest Bat	Positive @ 3 Sites	Anabat Recording	-	-
<i>Vespadelus vulturnis</i>	Little Forest Bat	Positive @ 3 Sites	Anabat Recording	-	-
<i>Vulpes vulpes</i>	Fox*	1	Observed	-	-
<i>Wallabia bicolor</i>	Swamp Wallaby	6	Observed	-	-
<b>Reptiles</b>					
<i>Tiliqua scincoides</i>	Eastern Blue-tongue	1	Observed		

\*Introduced/ pest species

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Level 9  
260 Queen Street  
Brisbane, QLD 4000

T: (07) 3839 8393

[www.erm.com](http://www.erm.com)