



Kenmore Gardens, Goulburn

Flora and Fauna Assessment

Kenmore Management Pty Ltd

DOCUMENT TRACKING

Project Name	Kenmore Gardens, Goulburn – Flora and Fauna Assessment
Project Number	24SYD9592
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Approved by	Stacey Wilson
Status	Final
Version Number	2
Last saved on	2 May 2025

This report should be cited as ‘Eco Logical Australia 2025, *Kenmore Gardens, Goulburn FFA*, Prepared for Kenmore Management Pty Ltd.’

Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from Kenmore Management Pty Ltd c/o LFA Pacific Pty Ltd (LFA Pacific).

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Executive Summary

Eco Logical Australia Pty Ltd (ELA) was engaged by Kenmore Management Pty Ltd c/o LFA Pacific Pty Ltd (LFA Pacific) to prepare a Flora and Fauna Assessment (FFA) report for Kenmore Gardens located at 191 Taralga Road Goulburn (Lot 5/DP1078852) and herein referred to as the subject land. The project is a proposed subdivision of 75 ha of land, which contains an existing multi building complex known as the former Kenmore Psychiatric Hospital which stems from the 1890's. The subdivision to create 20 separate lots will take place on the western portion of the study area on approximately 2.48 hectares of land (the study area). Kenmore Management secured a Masterplan for the study area in 2012 as well as a Development Application (DA) for a 20 lot subdivision. It is understood that the subdivision DA lapsed in 2017 and as such, Kenmore Management has been instructed to obtain a new DA approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This report has assessed the potential impacts of the proposed works on flora and fauna species listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). ELA completed a literature review, desktop assessments and a field survey to assess the impacts of the proposed subdivision.

The proposed subdivision is for 20 lots within the study area, of which nine contain existing dwellings. Six of these are heritage listed buildings and the remaining three brick cottages of lesser heritage significance. The proposal has identified potential building envelopes on the remaining 11 lots not currently containing dwellings within the study area, as well as potential areas (envelopes) for future development on the three lots containing existing brick cottage dwellings, and a small envelope adjacent to one of the existing heritage buildings (Figure 2 and Figure 3). These envelopes are not illustrating footprints for future development, but rather where future development may occur should it be pursued with respect to the existing heritage buildings, reflecting the existing lot and fencing patterns of these heritage buildings through setbacks on each of the lots (Figure 3). The *Biodiversity Conservation Regulation 2017* (BC Regulation) contains provisions under Part 7.1 (3) of the Regulation, which are as follows:

'If proposed development is or involves the subdivision of land, the subdivision is taken to involve the clearing of native vegetation that, in the opinion of the relevant consent authority or other planning approval body, is required or likely to be required for the purposes for which the land is to be subdivided. Once that clearing has been taken into account, the clearing for the purposes of the subsequent development of the land for which it was subdivided is not to be taken into account when determining whether the subsequent development exceeds the threshold.'

For this FFA, a precautionary approach has been undertaken and assumed that lots not containing existing dwellings may have all of the vegetation cleared as part of proposed future development. Lots with existing dwellings will only have vegetation surrounding the building envelopes removed, should future development occur in these lots. This approach allows for assessment not only of future construction of residential buildings, but also any ancillary facilities which may be included in future designs, such as driveways or fencing. It is assumed the six lots containing heritage listed dwellings will not have vegetation removed, with the exception of the small envelope adjacent to heritage building that would be inclusive of lot 17 in Figure 3.

The field survey undertaken by ELA (2025) did not identify any remnant native vegetation occurring within the study area. All vegetation within the study area occurred as either planted native or planted exotic vegetation. No threatened fauna species have previously been recorded occurring in the study

area, nor had any potential threatened fauna habitat been identified within the study area during the 2025 field assessment.

One threatened flora species was identified in the study area in the form of *Eucalyptus nicholii*. This species is listed as vulnerable under both the BC Act and EPBC Act. However, the species is commonly planted well outside of its range and individuals occurring within this bioregion are not considered to conform to the threatened species status for the following reasons:

- the study area is outside of the species natural range.
- this species is not associated with the plant community types (PCTs) mapped within Goulburn Mulwaree Local Government Area (LGA).

Therefore, this tree is not considered a threatened entity.

No other threatened flora or fauna species were identified in the study area during field surveys.

The study area contains approximately 0.06 ha of planted native vegetation and 1.04 ha of planted exotic vegetation. The impact assessment determined that the proposed subdivision may result in future development impacting up to 0.05 ha of planted native vegetation and 0.66 ha of planted exotic vegetation. The remaining impact areas contain either exotic grass or existing hardstand surfaces.

Potential impacts from the subdivision that could result in disturbance that effects a threatened entity listed under the BC Act and EPBC Act, was assessed by undertaking a Likelihood of Occurrence Assessment for threatened ecological communities and threatened and migratory species identified from the database search (Appendix A). This may include disrupting foraging behaviour or potential breeding or roosting habitat. One Test of Significance under the BC Act and one Assessment of Significance under the EPBC Act were required for *Pteropus poliocephalus* (Grey-headed Flying-fox (GHFF)). Both assessments concluded that the proposal is unlikely to result in a significant impact to the GHFF.

Mitigation measures have been recommended, should future development occur following the subdivision, to prevent direct or indirect impacts to native planted vegetation to be retained within the study area. Given no remnant native vegetation is proposed to be removed as part of the proposed subdivision, it is unlikely the subdivision will have a significant effect on the biodiversity values. Therefore, a Biodiversity Development Assessment Report (BDAR) or Species Impact Statement (SIS) are not required.

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Abbreviations

Abbreviation	Description
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
Biodiversity and Conservation SEPP	<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>
BOS	Biodiversity Offsets Scheme
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment, and Water
DA	Development Application
DoE	NSW Department of Education
DP	Deposited Plan
ELA	Eco Logical Australia Pty Ltd
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
FFA	Flora and Fauna Assessment
FM Act	NSW <i>Fisheries Management Act 1994</i>
GHFF	grey headed flying-fox
GIS	Geographic Information Systems
Goulburn DCP	Goulburn Mulwaree Development Control Plan 2009
Goulburn LEP	Goulburn Mulwaree Local Environment Plan 2009
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment, and Water
PCT	Plant Type Community
PMST	Protected Matters Search Tool
SEPP	State Environmental Planning Policy
SPRAT	Species Profile and Threats
SVTM	State Vegetation Type Mapping
TEC	Threatened ecological community
WM Act	NSW <i>Water Management Act 2000</i>

1. Introduction

1.1. Purpose of this report

Eco Logical Australia Pty Ltd (ELA) was engaged by Kenmore Management Pty Ltd c/o LFA Pacific Pty Ltd (LFA Pacific) to prepare a Flora and Fauna Assessment (FFA) report for Kenmore Gardens located at 191 Taralga Road Goulburn (Lot 5/-/DP1078852) (the subject land). Kenmore Gardens is a proposed subdivision of 75 ha of land which contains an existing multi building complex known as the former Kenmore Psychiatric Hospital which stems from the 1890's. The subdivision to create 20 separate lots will take place on the western portion of Kenmore Gardens on approximately 2.48 hectares of land (the study area). LFA Pacific secured a Masterplan for the study area in 2012 as well as a Development Application (DA) for a 20-lot subdivision. It is understood that the subdivision DA lapsed in 2017 and as such, LFA Pacific has been instructed to obtain a new DA approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This FFA report aims to identify the extent and significance of potential impacts on native vegetation, migratory and/or threatened species, populations and communities listed under the *NSW Biodiversity Conservation Act 2016* (BC Act) and *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The impact assessment within this report is based on information gathered from database searches and field investigations. The report sets out the legislative context, methods used, impacts on the environment and recommendations to mitigate or reduce these impacts. The following terms have been defined for the purposes of this assessment:

- Study area – the area directly affected by the proposed works along Taralga Road (footprint provided by LFA Pacific)
- Subject land – the current existing lot boundary (Lot 5/-/DP1078852)

1.2. Study area

The study area encompasses 2.48 hectares of land within the western portion of Lot 5/-/DP1078852. It is located 4.9 km northeast of the Goulburn Base Hospital and 760 m southeast of Goulburn Racecourse and Trotting Track (Figure 1). There are multiple built structures in the study area including firefighting equipment/services, three pools, one water tower shed, two storage sheds, six dwellings with heritage significance, three brick cottages of less heritage significance and 10 driveways.

The main access to the study area is via Taralga Road which runs along the western boundary, with additional driveway access points from Lithgow Crescent and Ross Avenue. It is bordered by land zoned as RU2 – Rural Landscape to the northeast, R5 – Large Lot Residential to the northwest and R2 – Low Density Residential to the west and south under the *Goulburn Mulwaree Local Environmental Plan 2009* (Goulburn LEP). The subject land is zoned R1 – General Residential under the Goulburn LEP. The broader surrounding landscape is composed of a mosaic of land zone types, including residential, infrastructure, public recreation and industrial to the east, south and west, with conservation easements to the north and northeast. The Wollondilly River runs adjacent to the southeast border of the subject land.

The study area has been historically cleared of native vegetation. Exotic species and planted natives are present within the study area, the majority of which are not locally indigenous.

1.3. Scope of works

The proposed development is for the subdivision of 20 residential lots along Taralga Road, Goulburn NSW (Figure 1). This re-proposed subdivision will require the removal and/or relocation of various active and unused structures and services including firefighting equipment, water storage pools and a water storage reservoir, miscellaneous sheds and existing services. The study area falls under both state and local heritage registers, with six dwellings within the study area of historical significance. These are to be avoided and retained as part of the proposed subdivision. An additional three existing dwellings within the study area are also proposed to be retained (Figure 3).

The proposal also includes the provision of sewer and stormwater at the rear of the lots to match with existing services. The proposed sewer easement would be 3 m wide and connect to the existing Goulburn Mulwaree Council sewer easement. The new stormwater easement is proposed to run parallel to the sewer easement and discharge on land to the southeast, within the subject land.

The proposed subdivision is for 20 lots within the study area, of which nine contain existing dwellings. Six of these are heritage listed buildings and the remaining three brick cottages of lesser heritage significance. The proposal has identified potential building envelopes on the remaining 11 lots not currently containing dwellings within the study area, as well as potential areas (envelopes) for future development on the three lots containing existing brick cottage dwellings, and a small envelope adjacent to one of the existing heritage buildings (Figure 2 and Figure 3). These envelopes are not illustrating footprints for future development but rather where future development may occur with respect to the existing heritage buildings, reflecting the existing lot and fencing patterns of these heritage buildings through setbacks on each of the lots, as illustrated in Figure 3. The *Biodiversity Conservation Regulation 2017* (BC Regulation) contains provisions under Part 7.1 (3) of the Regulation, which are as follows:

‘If proposed development is or involves the subdivision of land, the subdivision is taken to involve the clearing of native vegetation that, in the opinion of the relevant consent authority or other planning approval body, is required or likely to be required for the purposes for which the land is to be subdivided. Once that clearing has been taken into account, the clearing for the purposes of the subsequent development of the land for which it was subdivided is not to be taken into account when determining whether the subsequent development exceeds the threshold.’

Therefore, as part of this assessment, a precautionary approach has been incorporated into the assessment for each of the lots containing building envelopes as presented in Figure 3. For lots containing no existing dwellings, the whole of the proposed lots are being assessed as requiring the removal of all vegetation. For lots with existing buildings, only land within and adjacent to the envelopes shown in Figure 3 are being assessed as potentially requiring removal of vegetation if future development were to be pursued. It is assumed the six lots containing heritage listed dwellings will not have vegetation removed, with the exception of a small area associated with the envelope adjacent to heritage building that would be inclusive of lot 17 in Figure 3.

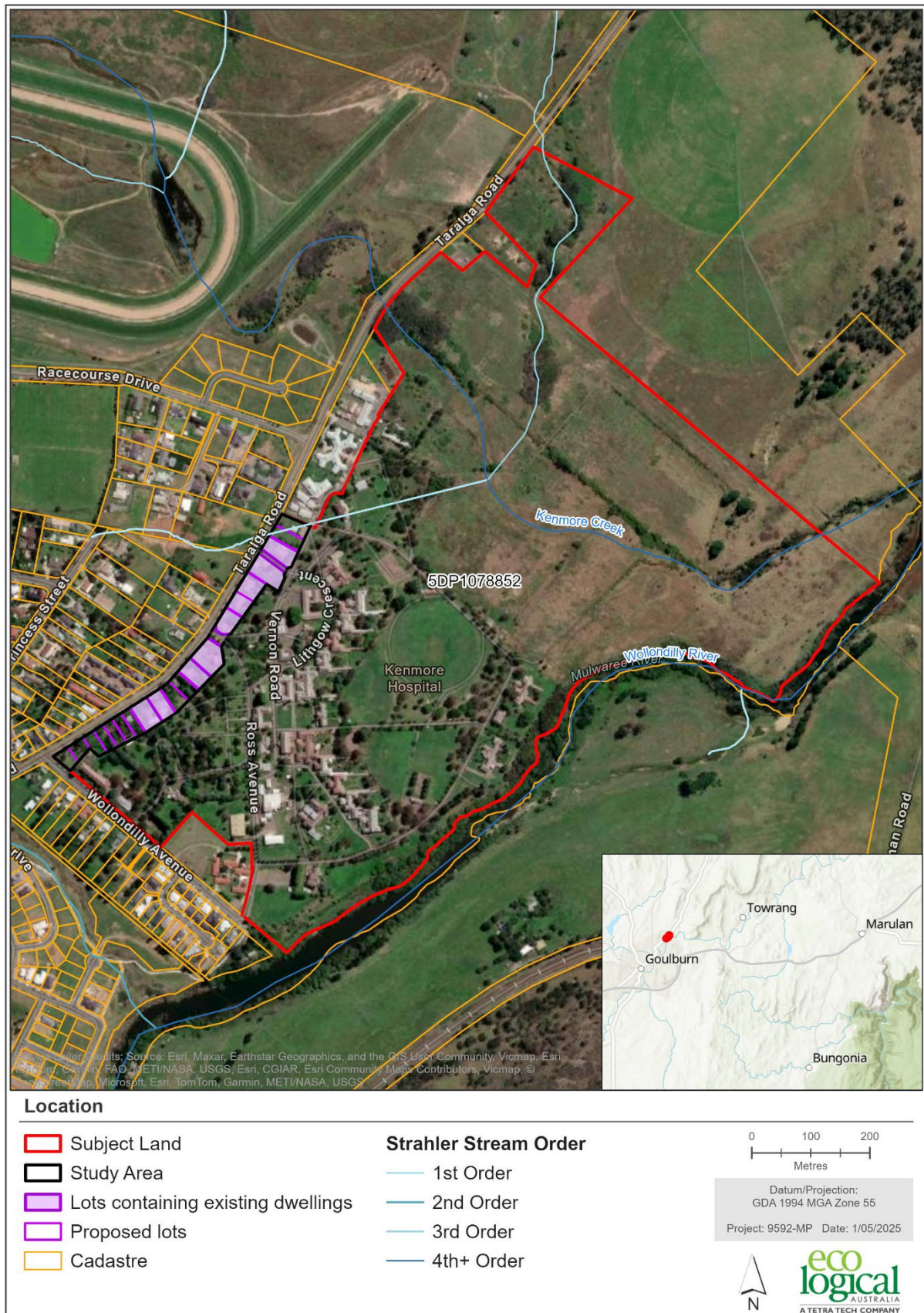


Figure 1: Location of the subject land.

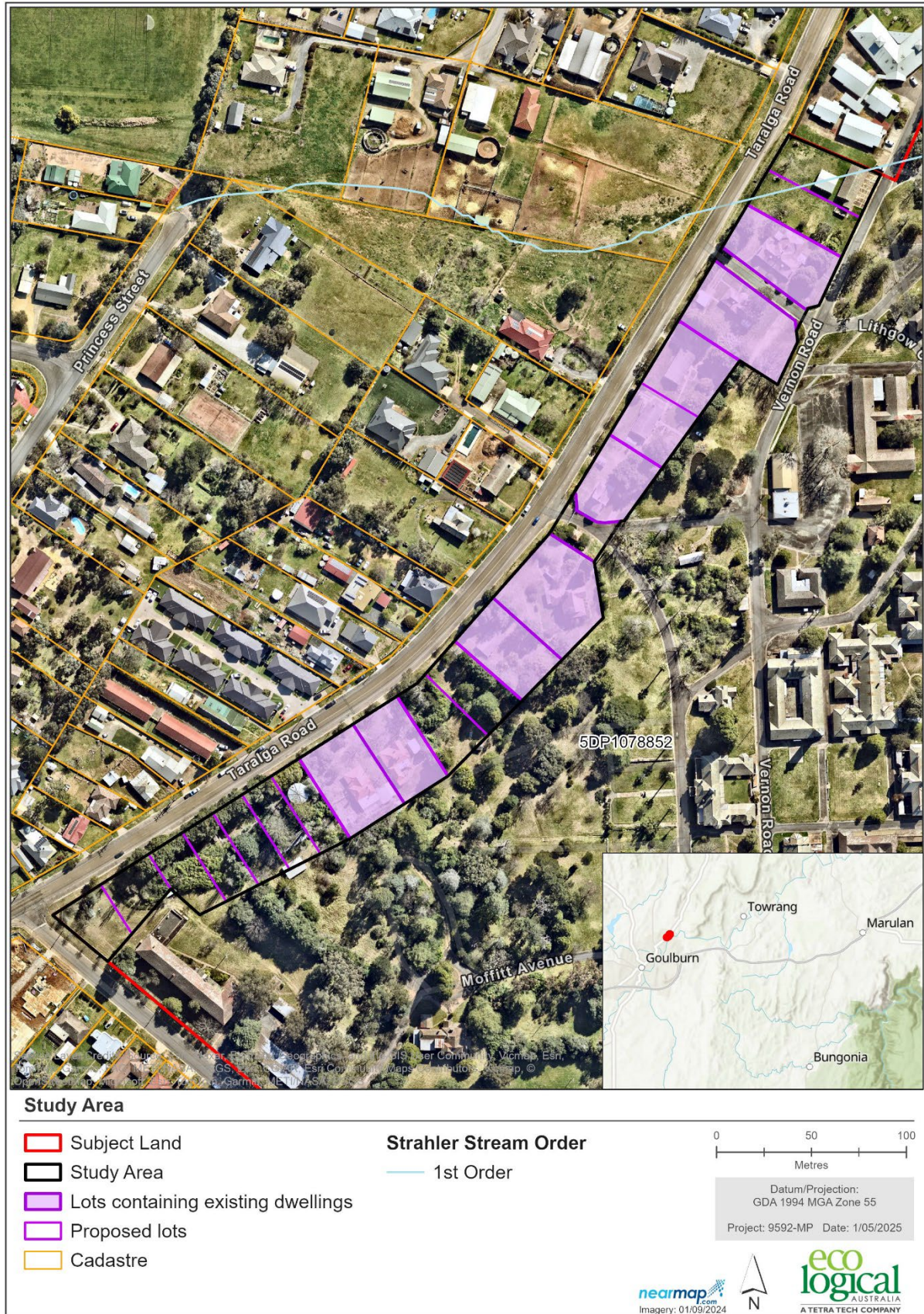


Figure 2: Location of the proposed subdivision (the study area).

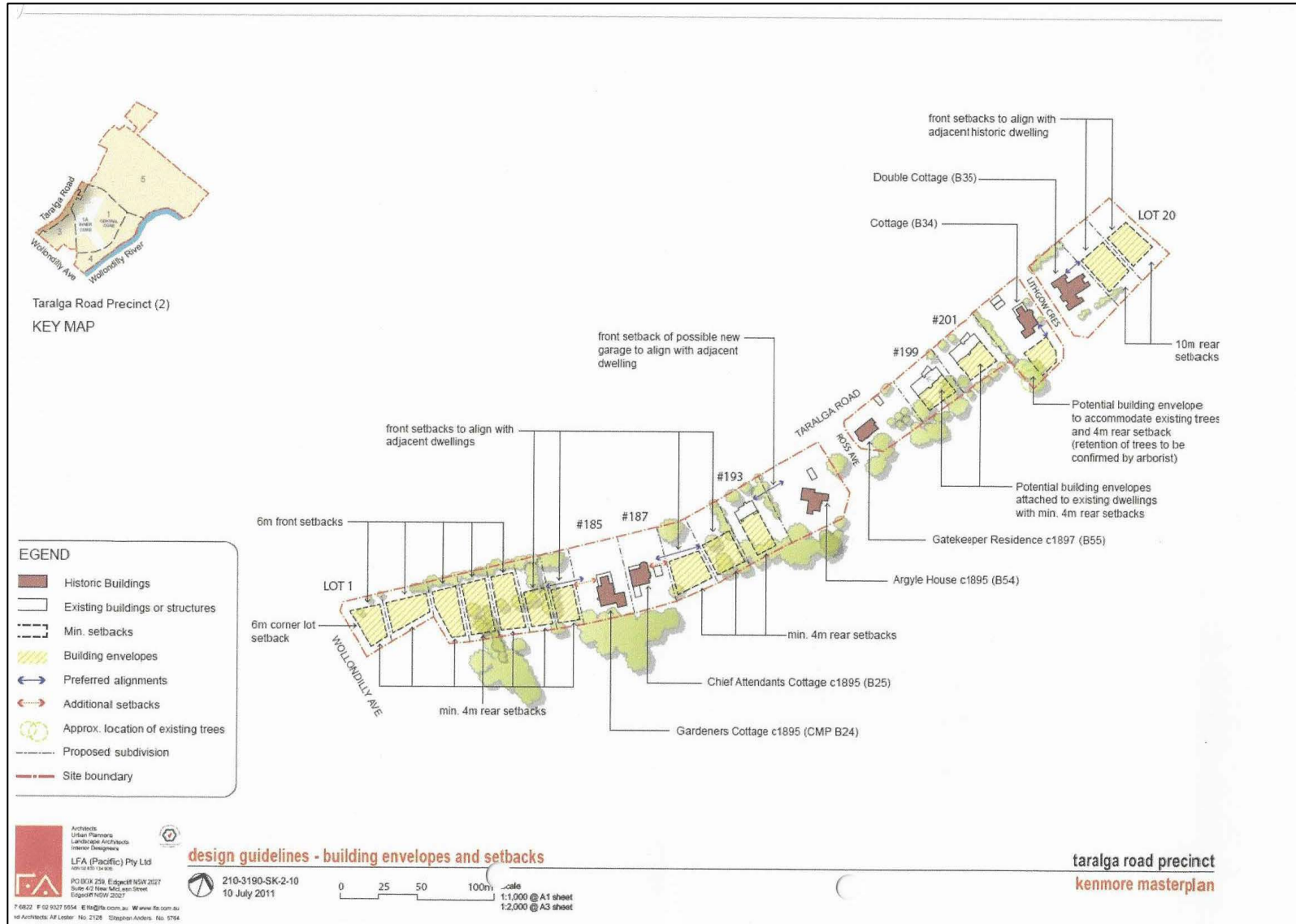


Figure 3: Building envelopes illustrating potential areas where development could occur within the study area, reflecting lot design and fencing pattern of existing heritage buildings as shown through each lots respective setbacks (provided by LFA).

2. Legislation

Table 1: Legislation relevant to the proposed works

Legislation	Relevance to the project	Report section
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	<p>The Commonwealth EPBC Act aims to protect Matters of National Environmental Significance (MNES), including vegetation communities and species listed under the EPBC Act. If an activity is likely to have a significant impact on MNES, it is likely to be considered a 'Controlled Action' by the Commonwealth and requires assessment and approval by the Commonwealth to proceed.</p> <p>The following MNES were identified as having the potential to occur within the study area:</p> <ul style="list-style-type: none"> <i>Pteropus poliocephalus</i> (Grey-headed Flying-fox) <p>An Assessment of Significance was prepared for this species and determined that the proposed impacts are unlikely to result in a significant impact.</p>	Section 5.2 Appendix C
<i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i>	<p>The EP&A Act is the principal planning legislation for NSW, providing a framework for the overall environmental planning and assessment of development proposals. The EP&A Act places a duty on the determining authority to adequately address a range of environmental matters including maintenance of biodiversity and the likely impact to threatened species, populations, or ecological communities (under the BC Act – refer below). The proposal is to be assessed under Part 4 of the EP&A Act.</p>	Entire report
<i>Biodiversity Conservation Act 2016 (BC Act)</i>	<p>The BC Act outlines the assessment requirements to determine whether future development is likely to significantly affect threatened species or ecological communities, or their habitats under section 7.3 and whether the Biodiversity Offsets Scheme (BOS) will be triggered for future development under Part 4 of the EP&A Act. Part 4 development proposals under the EP&A Act which exceed the BOS thresholds as set out in Part 7 of the Act and Part 7 of the Biodiversity Conservation Regulation 2017 (BC Regulation), are required to undertake the ecological assessment in accordance with the Biodiversity Assessment Method (BAM), including the preparation of a Biodiversity Development Assessment Report (BDAR).</p> <p>Proposed developments which involve the subdivision of land require assessment to be conducted for clearing of vegetation for the purpose the land is being subdivided under Part 7.1 (3) of the BC Regulation. The study area contains approximately 0.06 ha of planted native vegetation. This won't exceed the clearing area threshold to trigger the BOS and therefore a BDAR is not required.</p> <p>The proposed development will not be impacting on area under the biodiversity values map (Figure 5).</p> <p>Section 7.3 of the BC Act requires proponents of activities subject to Part 4 of the EP&A Act to determine whether they will have a significant impact on threatened species. The test for significant impact is described in Section 7.3 of the BC Act. A significant impact also occurs if the proposal is carried out in an area of outstanding biodiversity value. A Likelihood of Occurrence assessment has been completed (Appendix A). It was concluded that one (1) threatened fauna species recorded within 5 km of the study area, <i>Pteropus poliocephalus</i> (Grey-headed Flying-fox), has the potential to be affected by the proposal. Therefore, a Test of Significance under the BC Act was undertaken (Appendix B). It was determined that no significant impact is likely to result from the proposal and the preparation of a Biodiversity Development Assessment Report (BDAR) is not required.</p>	Section 5.1 Appendix B
<i>Fisheries Management Act 1994 (FM Act)</i>	<p>The FM Act governs the management of fish and their habitat in NSW. The FM Act regulates the provision of permits required in relation to the harm of protected marine vegetation (seagrass, macroalgae, mangroves and saltmarsh), dredging, reclamation or obstruction of fish passage on or adjacent to Key Fish Habitat. This includes direct or indirect impacts, whether temporary or permanent.</p> <p>The study area does not contain areas mapped as Key Fish Habitat. The Wollondilly River occurs 450 m to the east of the study area and is mapped as Key Fish Habitat. The proposed works <u>do not</u> involve harm to protected marine vegetation,</p>	N/A

Legislation	Relevance to the project	Report section
	dredging, reclamation or blocking of fish passage and therefore a permit under the FM Act is not required.	
NSW Biosecurity Act 2015	Under the <i>Biosecurity Act 2015</i> , priority weeds have been identified for Local Government Areas (LGA) and assigned strategies to contain, remove or manage. Occupiers of land (this includes owners of land) have responsibility for taking appropriate action for managing priority weeds on the land they occupy. The study area contains weeds listed under the <i>Biosecurity Act 2015</i> . One Weed of National Significance (WoNS) was identified within the study area in the form of <i>Rubus fruticosus</i> spp. agg.	N/A
Water Management Act 2000 (WM Act)	The <i>Water Management Act 2000</i> (WM Act's) main objective is to manage NSW water in a sustainable and integrated manner that will benefit current generations, without compromising future generations' ability to meet their needs. The WM Act establishes an approval regime for activities within waterfront land, defined as the land 40 m from the highest bank of a river, lake, or estuary. The study area is not located on waterfront land.	N/A
State and local planning instruments		
State Environmental Planning Policy (Resilience and Hazards) 2021	This SEPP applies to land in the coastal zone. The study area is not located within an area to which this SEPP applies.	N/A
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP)	<p>The State Environmental Planning Policy (Biodiversity and Conservation) 2021 consolidated and repealed a number of SEPPs. The following chapters were considered as potential to apply to the proposed works:</p> <ul style="list-style-type: none"> Chapter 2 Vegetation in non-rural areas Chapter 4 Koala habitat protection 2021 Chapter 6 Water catchments <p>Chapter 2 applies to development that does not require consent. As this proposal requires consent under Part 4 of the EP&A Act, this Chapter does not apply.</p> <p>Chapter 4, Koala Habitat Protection, of this SEPP carries over the effect of the repealed SEPP (Koala Habitat Protection) 2021 (SEPP KHP), which aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline. The development control provisions of the SEPP KHP apply to development applications relating to land within a council listed in Schedule 2 and:</p> <ul style="list-style-type: none"> Where there is no approved Koala Plan of Management for the land, if the land Has an area of more than 1 hectare, or Has, together with any adjoining land in the same ownership, an area of more than 1 hectare, whether or not the development application applies to the whole or only the part of the land. <p>The study area is within the Goulburn Mulwaree LGA which is listed in Schedule 2 the Koala SEPP. There is no approved Koala Plan of Management for the land, and the study area is part of a larger lot that is >1 ha. Therefore, the SEPP KHP applies to this proposed development. However, while some koala use trees are present within the study area, they are not proposed to be affected by the subdivision. Additionally, no core koala habitat as defined in Chapter 4 koala habitat protection was identified as occurring within the study area. Therefore, it is unlikely that a Koala Activity Report is required to be prepared for the proposed subdivision DA.</p> <p>The study area is located within the Sydney Drinking Water Catchment in accordance with this SEPP. Chapter 6 defines developmental controls for projects that may have an effect on water quality or aquatic ecology. There are no waterbodies located within the study area. Therefore, Chapter 6 of this SEPP does not apply to this proposal.</p>	N/A

Legislation	Relevance to the project	Report section
<i>Goulburn Mulwaree Local Environmental Plan 2009</i> (Goulburn LEP)	<p>The study area is located on land zoned as R1 – General Residential under the Goulburn Mulwaree LEP.</p> <p>The objective of this land zoning is:</p> <ul style="list-style-type: none"> • To provide for the housing needs of the community. • To provide for a variety of housing types and densities. • To enable other land uses that provide facilities or services to meet the day to day needs of residents. • To maintain the economic strength of commercial centres by limiting the retailing of food and clothing. <p>Under Part 5.10(2)(f) of this LEP, development consent is required for subdividing land on which a heritage item is located or that is within a heritage conservation area. The proposed subdivision will be carried out on land that is mapped as Kenmore Conservation Area and comprises an item listed on the State Heritage Register under the <i>Heritage Act 1977</i>. Therefore, development consent applies.</p> <p>The study area does not occur on terrestrial biodiversity mapping under the LEP (Figure 3).</p>	Entire Report
<i>Goulburn Mulwaree Development Control Plan 2009</i> (Goulburn DCP)	<p>Chapter 3.14 of the Goulburn Mulwaree DCP contains provisions relating to biodiversity management.</p> <p>Chapter 3.14.3 has provisions relating to regional corridors. As the study area contains no remnant native vegetation, this chapter of the DCP does not apply to the proposed subdivision.</p> <p>Chapter 3.15 has provision relating to high environmental conservation areas, as defined by the Goulburn LEP terrestrial biodiversity mapping. As no biodiversity mapping occurs within the study area, this chapter of the DCP does not apply to the proposed subdivision.</p>	N/A

3. Methodology

3.1. Literature review and database search

A review of readily available databases pertaining to the ecology and environmental features of the study area and surrounding area (within a 5 km radius), was conducted to identify records of threatened species, populations and communities and their potential habitat within the study area. The following documents and databases were reviewed prior to conducting the field survey:

- BioNet (NSW Atlas of Wildlife) database search (5 km) for threatened species, populations and ecological communities listed under the BC Act (NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) 2025c) (Accessed April 2025).
- EPBC Act Protected Matters Search Tool (PMST) for threatened and migratory species, populations and ecological communities listed under the Commonwealth EPBC Act (Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2025b) (Accessed April 2025).
- NSW Threatened Species Profile Database (NSW DCCEEW 2025f).
- Previous vegetation mapping under the State Vegetation Type Map (SVTM) (NSW DCCEEW 2025e).
- Plant Community Type (PCT) information under BioNet Vegetation Classification (NSW DCCEEW 2025d).
- Australian Government Species Profile and Threats (SPRAT) Database (DCCEEW 2025c).
- Relevant Geographic Information System (GIS) datasets including soils, geology and drainage (NSW DCCEEW 2025a; NSW DPI, 2025).
- Review of relevant planning instruments, documentation, and information relating to biodiversity values (DCCEEW, 2025a; NSW DCCEEW 2025b) and potential threatened species habitat.
- Aerial photography (including Google Earth and Historical Imagery) of the study area and surrounds were also used to investigate the extent of vegetation cover and landscape features.

Species searches from both the NSW BioNet Wildlife Atlas and EPBC PMST were combined to produce a list of threatened species, populations and communities that may occur within the study area. This list was also supplemented or amended based on local ecological knowledge of the area, including known species occurrences. A likelihood of occurrence table for threatened flora, fauna and ecological communities is given in Appendix A.

3.2. Field survey

A field survey was conducted on 12 February 2025 by ELA ecologists Hamish Pritchard and Ali Jeffery. The field survey was conducted to:

- Validate existing vegetation mapping and determine the condition of vegetation communities and presence of any threatened ecological communities.
- Identify the presence of threatened terrestrial species/populations if present
- Identify whether potential habitat for these species/populations is likely to occur, with regard to threatened species and their breeding or roosting habitat, as well as potential foraging or breeding habitat, such as hollow-bearing trees, woody debris and creek lines

- Identify known roosting/foraging/breeding areas, as well as other potential habitat areas for threatened species.

The field survey validated the boundaries of the vegetation using digitalised maps. When habitat features were present, these were marked using a handheld GPS unit.

3.3. Limitations

The field survey conducted for the FFA was not intended to provide an inventory of all species across the study area. Instead, it provides an overall assessment of the ecological values of the study area with emphasis on threatened species, endangered communities, and key fauna habitat features. It did not include any targeted flora and/or fauna surveys.

Handheld GPS units were used to collect survey tracks during the field survey. It is noted that these units can have errors in accuracy of up to 20 m (subject to availability of satellites on the day).

All area calculations have been based off the provided plans from the Premise Pty Ltd to inform the study area boundaries.

4. Results

4.1. Data audit and literature review

4.1.1. Soils, topography and hydrology

The study area is located on Monastery Hill soil landscapes. These are characterised by crest and hillslopes / undulating rises with slope gradients <10% (NSW DCCEEW 2025a). Vegetation associated with Monastery Hill soil landscapes consist of Savannah woodlands of yellow box and Blakelys red gum. A soil profile report taken 100 m to the northwest of the study area on cleared, urban land identifies the soil as Brown Chromosol (NSW DCCEEW 2025a). Soils of this order are among the most widespread soils used for agriculture in Australia (ASC, n.d.).

There are no waterbodies mapped within the study area. The closest waterbody is the Wollondilly River 6th order Strahler stream approximately 450 m to the east of the study area (Figure 1).

4.1.2. Vegetation mapping

Previous vegetation mapping under the State Vegetation Type Map (SVTM) (NSW DCCEEW 2025e) was reviewed for vegetation occurring within the study area and surrounding land. The SVTM had no plant community types (PCTs) mapped as occurring within the study area (Figure 4).

4.1.3. Biodiversity Values and Terrestrial Biodiversity

The study area does not contain land mapped under the Biodiversity Values (BV) Map (NSW DCCEEW 2025), accessed 10 April 2025 (Figure 5). The Biodiversity Offsets Scheme (BOS) is not triggered for this threshold as the proposed impact area does not overlap with any areas mapped on the BV map. The study area does not contain any vegetation mapped as 'Terrestrial Biodiversity' under the Goulburn Mulwaree Local Environment Plan (LEP) 2009 (NSW DPIE, 2023) (Figure 5).

4.1.4. Threatened species

The search for threatened species using the PMST (DCCEEW 2025b) and BioNet NSW Atlas of Wildlife (NSW DCCEEW 2025c) with a 5 km buffer around the study area and the review of literature resulted in a list of 18 threatened flora species and 50 threatened or migratory fauna species, which are shown in Figure 6.

It should be noted that the result of the PMST, which has been included in Appendix A, is only a list of species based on habitat modelling. Therefore, not all species listed in Appendix A are shown on the maps in this report. BioNet database records for the study area of threatened flora and fauna are shown in Figure 6.

There are no current or historic threatened flora or fauna species BioNet records located within the study area.

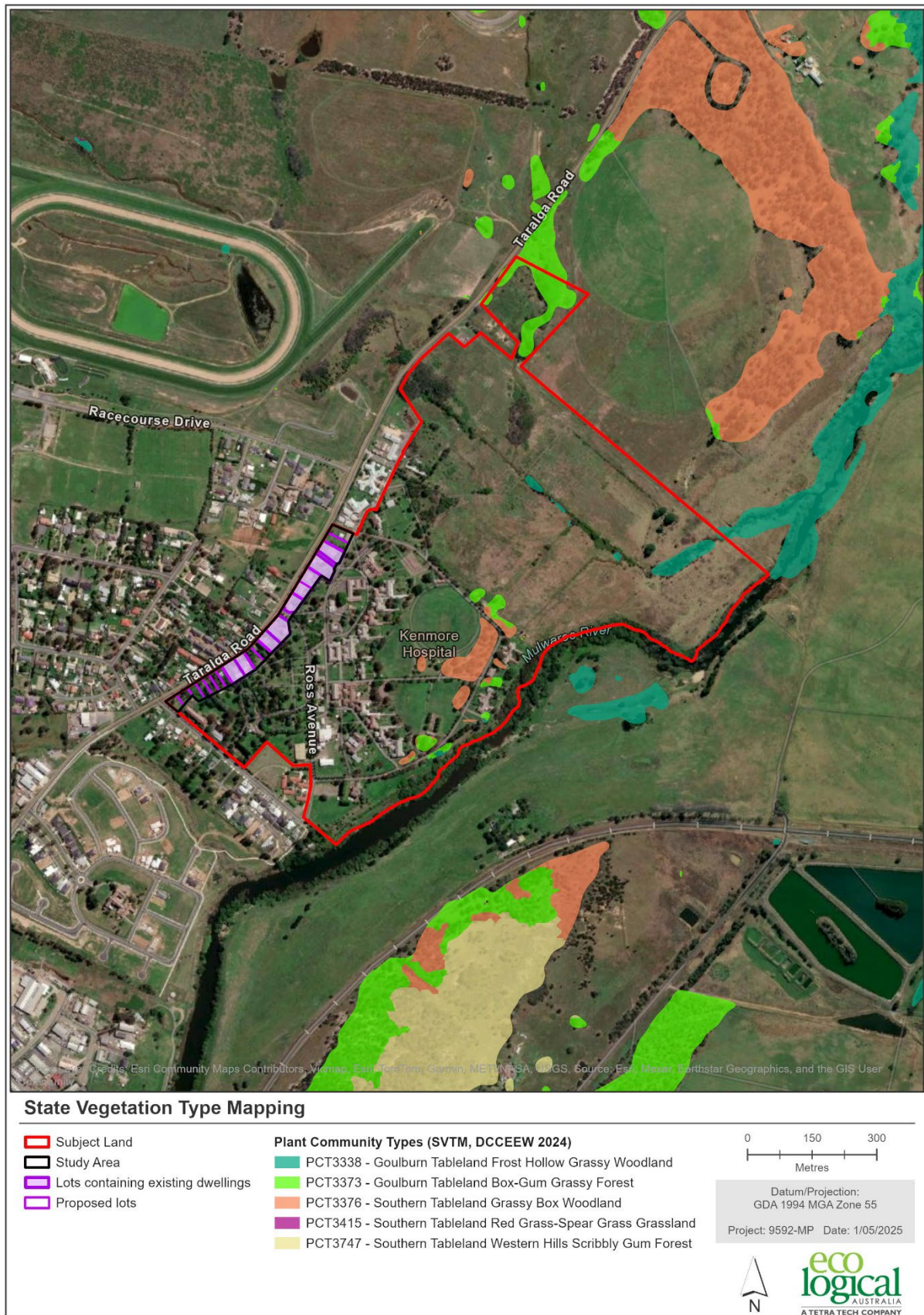


Figure 4: State Vegetation Type Mapping (NSW DCCEEW 2025e)

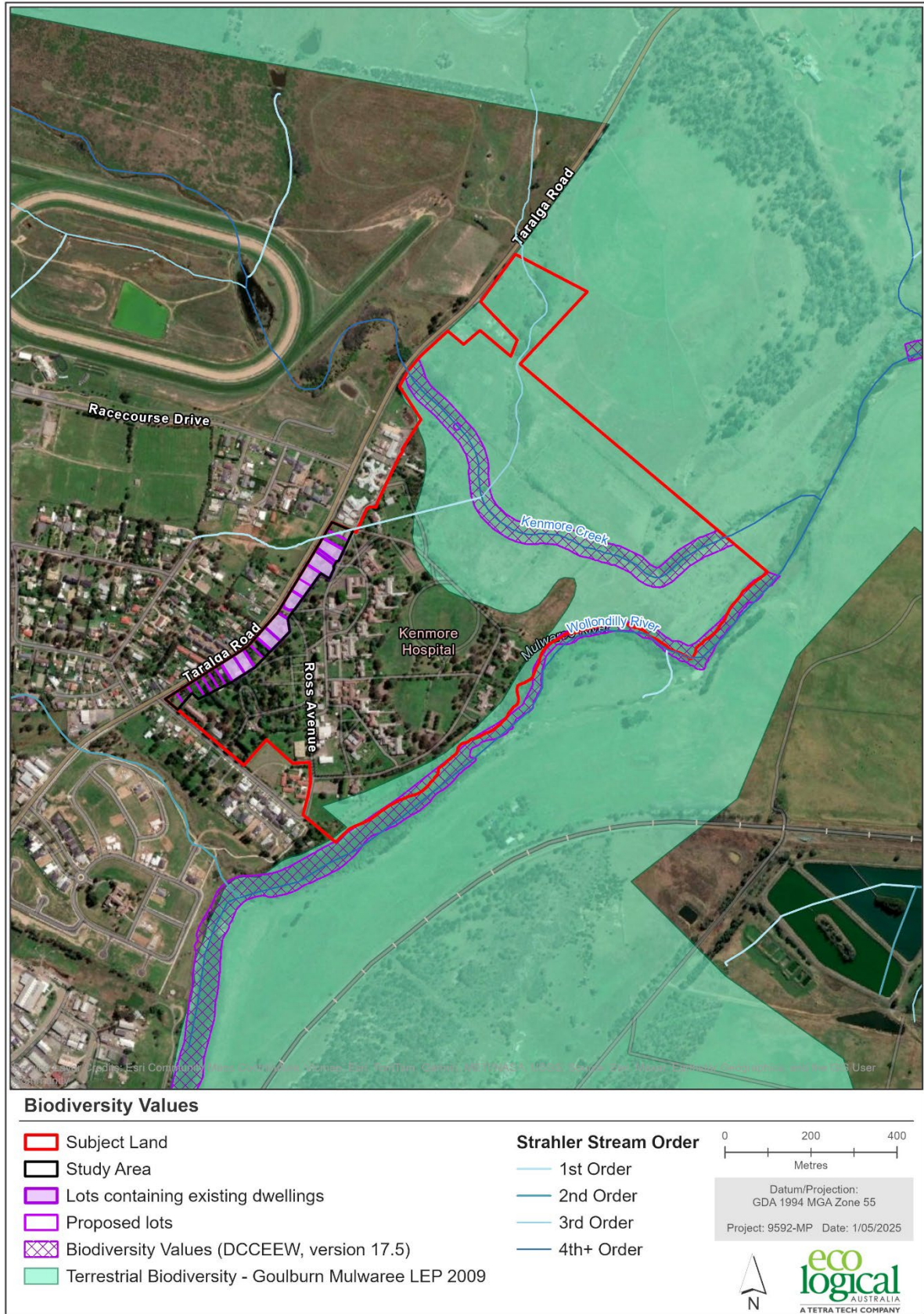


Figure 5: Biodiversity Values Map (NSW DCCEEW, 2025b)

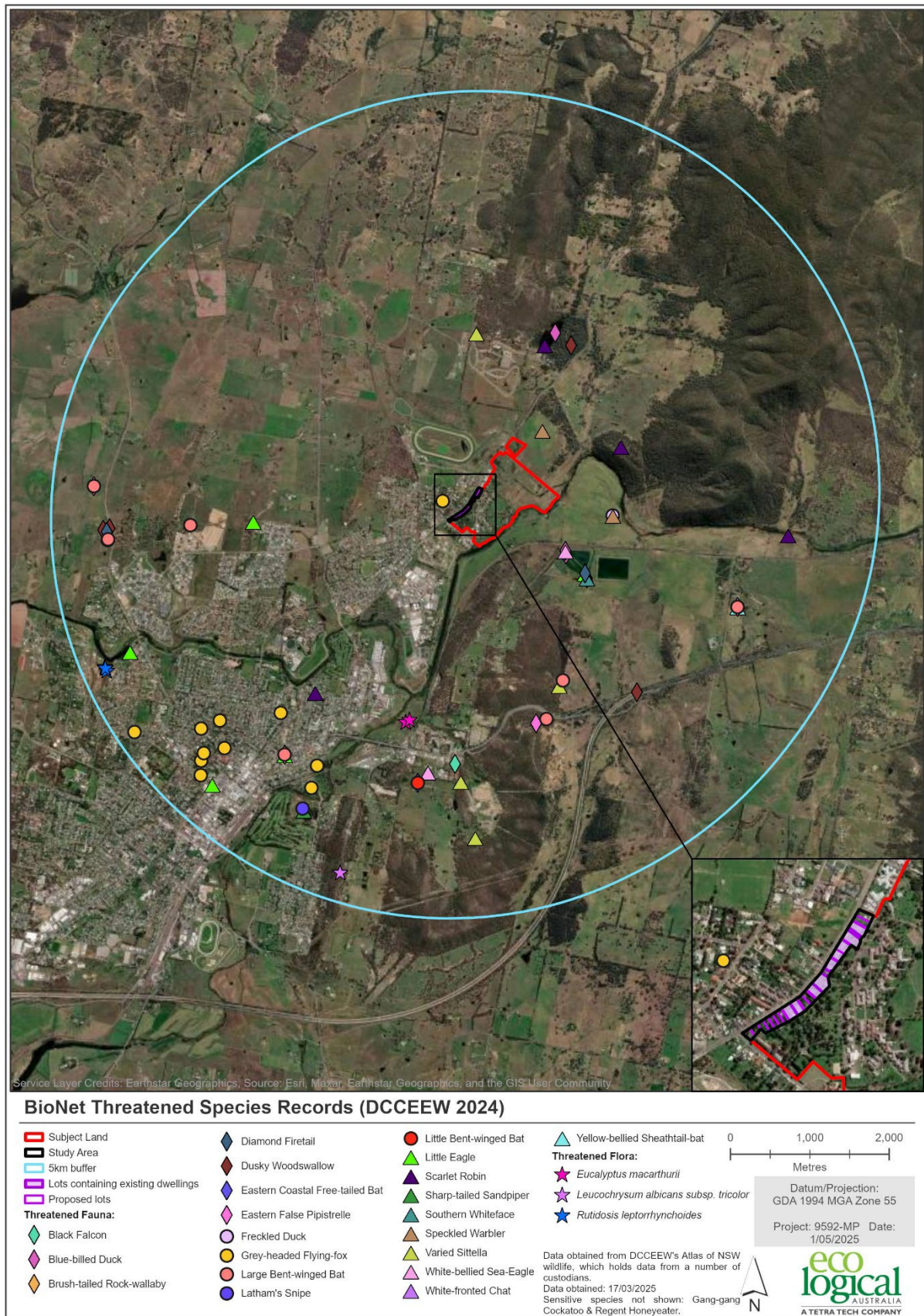


Figure 6: BioNet threatened flora and fauna species records within a 5 km radius of the study area (NSW DCCEW 2025c)

4.2. Survey results

4.2.1. Vegetation communities

The vegetation within the study area does not align with a formally described NSW PCT, and instead has been described by three vegetation zones as below

- planted native.
- planted exotic.
- exotic grass.

Validated vegetation is shown in Figure 11.

4.2.1.1. *Planted native vegetation*

Planted native vegetation occurred as small patches of native trees occurring in various areas throughout the study area and accounted for approximately 0.06 ha of the study area (Figure 11). In the northern part of the study area, planted native vegetation consisted of planted trees around existing dwellings. In the south, species similarly occurred around existing dwellings but also along the boundary adjacent to Taralga Road. Planted native canopy species included *Araucaria bidwillii* (Bunya Pine), *Eucalyptus bicostata* (Southern Blue Gum), *E. mannifera* (Brittle Gum), *E. macrorhyncha* (Red Stringybark), *E. nicholii* (Narrow-leaved peppermint) and *Melaleuca styphelioides* (Prickly-leaved Tea Tree). These trees were determined to be planted due to either occurring in straight lines, separated by an equal distance and having a similar age class to exotic species also planted within the formation (*E. mannifera*, *E. macrorhyncha* and *M. styphelioides*, as seen in Figure 7) or due to being outside of the natural distribution of the species (*A. bidwillii*, *E. bicostata* and *E. nicholii*, see section 4.2.2.1).

Ground cover in these patches consisted of a mix of native and exotic grasses including *Cynodon dactylon* (Couch), *Chloris truncata* (Windmill grass), *Cenchrus clandestinus* (Kikuyu) and *Paspalum dilatatum* (Paspalum).



Figure 7: Planted native vegetation occurring adjacent to the boundary of Taralga Road in the southern part of the study area.

4.2.1.2. **Planted exotic vegetation**

Approximately 1.04 ha of planted exotic vegetation was present throughout the study area (Figure 9). Exotic vegetation occurred as landscaping plantings around existing dwellings, or along the study area boundary. Canopy species included *Cupressus sempervirens*, *C. torulosa*, *Cedrus atlantica* (Atlas Cedar), *Populus nigra* (Black Poplar), *Photinia serratifolia*, *Pinus radiata* and *Schinus molle* (Pepper Tree) (Figure 8). In the northern part of the study area, midstorey consisted of hedging and garden plants and included *Cotoneaster glaucophyllus* (Glaucous Cotoneaster), *Ligustrum lucidum* (Broad-leaved Privet), *Fraxinus angustifolia* (Narrow-leaved Ash), *Rubus fruticosus* sp. agg., *Nerium oleander* (Oleander) and *Euonymus japonicus* (Japanese Spindle). Exotic vegetation in the south was less managed in areas. Species found in the midstorey in this section included *Cotoneaster glaucophyllus*, *Ligustrum lucidum*, *Olea europaea* subsp. *cuspidata* (African Olive) and *Phyllostachys* sp. (Bamboo) (Figure 9). Groundcover contained a mix of native and exotic species including *Cynodon dactylon*, *Chloris truncata*, *Bothriochloa macra* (Red Grass), *Trifolium repens* (White Clover), *Cenchrus clandestinus*, *Hydrocotyle* sp., *Plantago lanceolata*, *Paspalum dilatatum*, *Hordeum vulgare*, *Sisymbrium irio* (London Rocket), and *Eleusine tristachya* (Goose Grass). The vine *Passiflora caerulea* (Blue Passionflower) was also present along the fence lines adjacent to Taralga Road.



Figure 8: Planted exotic canopy species present within the northern part of the study area.



Figure 9: Planted exotic midstorey present within the southern part of the study area.

4.2.1.3. Exotic grass

Exotic grass accounted for approximately 1.11 ha of the study area (Figure 11). Dominant species included *Cenchrus clandestinus*, *Paspalum dilatatum*, *Hordeum vulgare* (Barely), *Bromus catharticus* (Prairie Grass), *Eragrostis curvula* (African Lovegrass) and *Eleusine tristachya* (Goose Grass) (Figure 10). Other scattered exotic species present throughout these sections included *Hydrocotyle* sp., *Plantago lanceolata*, *Hypochaeris radicata* (Flatweed), *Conyza bonariensis* (Flaxleaf Fleabane) and *Arvena barbata* (Bearded Oats). Native species were also present except in lower coverage and consisted of *Cynodon dactylon*, *Chloris truncata*, *Microlaena stipoides*, *Bothriochloa macra*, *Oxalis perennans* (Native Oxalis) and *Sporobolus creber*.



Figure 10: Exotic grass present in the northern part of the study area.



Figure 11: Validated vegetation (ELA 2025)

4.2.2. Flora species

The field survey identified 38 flora species, of which 21 were exotic species during the vegetation validation assessments. A flora list for species identified in the study area is available in Appendix D.

4.2.2.1. Threatened Flora

One threatened flora species, *Eucalyptus nicholii* (Narrow-leaved Black Peppermint) was identified in the field assessment, having been planted in the north-east corner of the study area. *Eucalyptus nicholii* is listed as vulnerable under both the BC Act and EPBC Act. It has a highly restricted geographic distribution which includes the NSW Northern Tablelands, with its known distribution occurring 535 km north of the study area (OEH, 2020).

According to BioNet threatened species search (NSW DCCEEW, 2025g) this species is frequently planted well outside of its range. Therefore, the planted individual in the study area should not be assessed under the threatened species criteria for the following reasons:

- The species is outside of its naturally occurring geographical range (NSW DCCEEW 2025g and OEH 2020)
- It does not occur within natural habitat for this species i.e. grassy or sclerophyll woodlands (OEH 2020).
- The species is not associated with any the mapped PCTs occurring in the surrounding landscape (NSW DCCEEW 2025e).

The species is planted on a landscape characterised by undulating rises and clay and loam rather than the preferred shallow and relatively infertile soils on shales and slates that occur within its natural range (NSW DCCEEW, 2025a). Based on the above, the *E. nicholii* specimen located within the study area does not represent a threatened entity under the BC Act or EPBC Act and a Test of Significance under the BC Act and Assessment of Significance under the EPBC Act are not required for this species.

No other threatened species were identified within the study area during field surveys.

4.2.2.2. Exotic species and priority weeds

A total of 13 exotic species were recorded during vegetation validation surveys within the study area. These includes one (1) species listed as a State Priority Weed under the NSW *Biosecurity Act 2015* (LLS 2023) and as a Weed of National Significance (WoNS). The Priority Weeds present, their management class and whether or not they are a WoNS is presented in Table 4.

Table 2: Exotic flora and Priority Weeds recorded in the study area

Scientific Name	Common Name	Priority Weed Objective	WoNS
<i>Agave americana</i>	Century Plant	-	
<i>Agave</i> sp.		-	
<i>Apogonanthus</i> sp.		-	
<i>Bromus catharticus</i>	Prairie Grass	-	
<i>Cenchrus cladenstinus</i>	Kikuya Grass	-	
<i>Conyza bonariensis</i>	Flaxleaf Fleabane	-	
<i>Eleusine tristachya</i>	Goose Grass	-	
<i>Eragrostis curvula</i>	African Lovegrass	-	

Scientific Name	Common Name	Priority Weed Objective	WoNS
<i>Hordeum vulgare</i>	Barely	-	
<i>Hydrocotyl</i> sp.		-	
<i>Hypochaeris</i> sp.		-	
<i>Paspalum dilatatum</i>	Paspalum	-	
<i>Passiflora caerulea</i>	Blue Passionflower	-	
<i>Plantago lanceolata</i>	Plantain	-	
<i>Plantago lanceolata</i>	Plantain	-	
<i>Populus x canescens</i>	Grey Poplar	-	
<i>Rubus fruticosus</i> spp. agg	Blackberry	Containment and/or asset protection	Yes
<i>Schinus mollee</i>	Pepper Tree	-	
<i>Sisymbrium irio</i>	London Rocket	-	
<i>Tifolium pratense</i>	Red Clover	-	
<i>Trifolium repens</i>	White Clover	-	

4.2.3. Fauna species and their habitat

No threatened fauna species were identified during the field survey. No habitat in the form of hollow bearing trees, large woody debris, caves, rock piles or cliff lines were present in the study area.

Canopy species identified within the planted native vegetation within the study area may provide foraging habitat for highly mobile species, for example, *Pteropus poliocephalus* (grey-headed flying-fox) which was recorded 300m to the east of the study area in 2015 (NSW DCCEEW, 2025c). Due to the limited amount of potential foraging vegetation present, these trees may only be used on occasion by highly mobile threatened species as they move across the landscape.

Existing dwellings currently not in use may serve as potential roosting habitat for microbats, including threatened species. These were inspected during field surveys, and no signs of use by microbats were observed in dwellings that were able to be accessed safely.

No other potential threatened fauna habitat was identified within the study area. A list of fauna species observed within the study area during the field survey is presented in Appendix E.

Signs of exotic fauna species *Vulpes vulpes* (Red Fox) were present within the study area, including potential active dens (Figure 12). *Oryctolagus cuniculus* (Rabbit) was observed within the subject land during the field survey.



Figure 12: Potential fox den observed within the study area.

5. Impact assessment

The proposed DA is for the subdivision of 20 Lots. As per Part 7.1(3) of the BC Regulation, assessment of impacts is required for the proposed future works that the subdivision is being undertaken for. Therefore, as part of this assessment, a precautionary approach was undertaken for the assessment of each of the lots containing building envelopes as presented in Figure 3. This approach allows for assessment not only of future construction of residential buildings, but also any ancillary facilities which may be included in future designs, such as driveways or fencing, if future development were to be pursued. For lots containing no existing dwellings, the whole of the proposed lots are being assessed as requiring the removal of all vegetation. For lots with existing dwelling which contained envelopes (Figure 3), only land within and adjacent to the building envelopes are being assessed as requiring the removal of vegetation.

The majority of the proposal is located on land identified as cleared or exotic grass. A total of 0.05 ha of native planted vegetation may be affected as a result of the future works related to the purpose of the subdivision. Under the BC Act, Part 4 developments under the EP&A Act require entry into the BOS should the amount of native vegetation to be cleared meets thresholds related to the minimum lot size. As there is less than 0.25 ha of planted native vegetation within the study area, the proposed subdivision will not exceed the area clearing threshold, and therefore the BOS does not apply and a BDAR is not required to be submitted as part of the DA.

Remaining areas of vegetation to be affected include 0.66 of planted exotic vegetation, 0.57 ha of exotic grass and 0.08 ha of existing infrastructure/hardstand areas. The proposal would have total direct impact area of 1.36 ha.

The potential impact of the proposal to threatened species and communities listed under the BC Act and EPBC Act was assessed by undertaking an assessment of likelihood of occurrence for threatened ecological communities and threatened and migratory species identified from the database search (Appendix A).

One Test of Significance under the BC Act and one Assessment of Significance under the EPBC Act was required for *Pteropus poliocephalus* (grey-headed flying-fox). No Tests of Significance or Assessments of Significance were required for threatened flora species or TECs after considering both the desktop review and the field survey results.

5.1. Direct impacts

Direct impacts as a result of future development related to the purpose of the subdivision has been assessed and are shown in Figure 13.

A summary of the potential impacts has been provided in Table 3.

Table 3: Summary of potential impacts to vegetation communities in study area

Vegetation community	Total area in study area (ha)	Direct impact (ha)
Planted native vegetation	0.06	0.05
Planted exotic vegetation	1.04	0.066
Exotic grass	1.11	0.57
Built areas	0.08	0.08
Grand total		1.36

Direct impacts are those impacts that directly affect habitat and individuals. Direct impacts considered for this assessment includes the removal of planted vegetation. The proposed subdivision is likely to result in the following direct impact during future development:

- Removal of planted native vegetation.

5.1.1. Removal of native vegetation

Based on the final design, the proposed future works associated with the subdivision could result in the removal of up to 0.05 ha of planted native vegetation.



Figure 13: Assessment of impacts should future development be pursued.

5.2. Indirect impacts

Indirect impacts may result from proposed works undertaken during future construction. Indirect impacts are those impacts that may affect habitat or biodiversity values indirectly and can include entities within the development footprint or those external. The proposed future works associated with the subdivision may result in the following indirect impact:

- Sediment erosion and run-off during earthworks.
- Spread of weeds and/or pathogens

5.3. *Biodiversity Conservation Act 2016*

If a species, population, or ecological community listed under Schedules 1 or 2 of the BC Act is likely to be affected, the factors set out to establish if there is likely to be a significant impact on that species, population, ecological community, or habitat, must be assessed. Section 7.3 of the BC Act sets out five factors that must be addressed as part of a Test of Significance. This enables a decision to be made as to whether there is likely to be a significant impact on the species and if a BDAR is required.

5.3.1. Threatened Ecological Communities

The proposal would not impact threatened ecological communities. Therefore, Tests of Significance were not undertaken for any threatened ecological communities.

5.3.2. Threatened flora

The proposal would not impact threatened flora or habitat for threatened flora. Therefore, Tests of Significance were not undertaken for any threatened flora species.

5.3.3. Threatened fauna

To identify the potential impacts should the proposal indirectly effect the forging behaviour of highly mobile species, such as *Pteropus poliocephalus* (grey-headed flying-fox (GHFF)), a Test of Significance was undertaken (Appendix B). This concluded that the proposal is unlikely to result in a significant impact to the GHFF.

5.3.4. Key Threatening Processes

No Key Threatening Processes listed under the BC Act or EPBC Act are relevant to the proposed subdivision.

5.4. EPBC Act – Assessment of Significance

The EPBC Act establishes a process for assessing the environmental impacts of activities and developments where Matters of National Environmental Significance (MNES) may be affected. Under the Act any action which “has, will have, or is likely to have a significant impact on a MNES” is defined as a “controlled action”, and requires approval from the Commonwealth DEECCW which is responsible for administering the EPBC Act. Under the EPBC Act, the term action is synonymous with the proposed works (i.e. subdivision and future works).

5.4.1. Threatened Ecological Communities

The proposal would not impact threatened ecological communities. Therefore, Assessments of Significance were not undertaken for any threatened ecological communities.

5.4.2. Threatened flora

The proposal would not impact threatened flora or habitat for threatened flora. Therefore, Assessments of Significance were not undertaken for any threatened flora species.

5.4.3. Threatened fauna

To identify the potential impacts should the proposal indirectly effect the forging behaviour of highly mobile species, such as GHFF, an Assessment of Significance was undertaken (Appendix C). This concluded that the proposal is unlikely to result in a significant impact to the GHFF.

6. Recommendations

Following successful approval of the subdivision, potential impacts related to potential future construction of proposed dwellings and ancillary facilities, such as driveways and fence lines, have been assessed. The following broad mitigation measures are recommended to prevent direct and indirect impacts to vegetation to be retained within and adjacent to the study area:

- Native vegetation:
 - Tree protection fencing should be established around any proposed trees to be retained within the vicinity of the proposed buildings to be constructed and / or removed.
 - Pre-clearance surveys of potential habitat (e.g. trees for nesting birds / arboreal mammals) prior to removal.
 - Supplement removal of native vegetation through planting of locally native canopy species in landscaping plans.
- Create a sediment and erosion control plan prior to removal of vegetation or on ground works.
- Implement soil and weed controls to prevent the introduction of soil pathogens or weed propagules into the study area. For example, work vehicle access should be restricted to designated work areas and existing formed access tracks/roadways.

Additional specific controls for the above mitigation measures are provided in Table 4.

Table 4: Recommendations for mitigation measures

Mitigation number / name	When is mitigation measure to be complied with	Mitigation measure	Reason for mitigation measure
1. Native vegetation	Before and during construction phase.	<ul style="list-style-type: none"> Pre-works briefings must be undertaken by staff advising contractors or workers of sensitive areas and the relevant safeguards for each. The extent of works must be clearly pegged or marked out by a surveyor prior to vegetation removal. Tree protection fencing must be established around any proposed trees to be retained within the vicinity of the proposed buildings to be constructed and / or removed. Have an ecologist or similarly qualified personnel undertake a pre-clearance survey to identify any potential fauna habitat present in vegetation proposed for removal. Supplement removal of planted native vegetation with planting of locally native canopy species in landscaping plans. <i>Eucalyptus melliodora</i> is recommended for replanting, as it is locally indigenous based on surrounding vegetation mapped by the SVTM (Figure 4) and will supplement the removal of foraging habitat for grey-headed flying-fox. 	Prevent accidental impacts to native vegetation proposed for retention / outside of proposed works.
2. Sediments and erosion control	Before and during construction phase.	<ul style="list-style-type: none"> Undertake the best practice erosion and sediment controls. This would include but is not limited to: <ul style="list-style-type: none"> Developing a sediment and erosion control plan prior to removal of vegetation or on ground works. Not undertaking work during or after heavy rain if doing so is likely to cause soil erosion or soil structural damage 	Prevent potential indirect impacts to retained vegetation or potential threatened species habitat within the study area caused by run-off.
3. Pathogens and weed propagules control	Before and during construction phase.	<ul style="list-style-type: none"> Ensure all equipment and footwear is thoroughly cleaned prior to commencement of works and when entering new sites. Wash down procedure should be established for machinery entering or exiting the study area to limit weed spread or disease. 	Prevent accidental introduction of soil pathogens, fungus or weed propagules into the study area during construction.

7. Conclusion

Eco Logical Australia Pty Ltd (ELA) was engaged by Kenmore Management Pty Ltd c/o LFA Pacific Pty Ltd (LFA Pacific) to prepare a Flora and Fauna Assessment (FFA) report for Kenmore Gardens located at 191 Taralga Road Goulburn (Lot 5/DP1078852) (the subject land). The proposed works aim to create 20 separate lots on the western portion of the subject land on approximately 2.48 hectares of land (the study area).

Under Part 7.1 (3) of the BC Reg, for subdivision proposals, assessment is required to be undertaken for proposed future works in relation to the purpose of the subdivision. For the proposed development at Kenmore Gardens, this may include the construction of 11 new dwellings on the proposed lots, as well as potential future development on three of the lots containing existing brick cottage dwellings and a small area adjacent to a heritage building which will form part of lot 17 (Figure 3). This assessment has been undertaken using a precautionary approach for each of the lots containing building envelopes as shown in Figure 3. These envelopes are not illustrating footprints for future development, but rather where future development may occur should it be pursued with respect to the existing heritage buildings, reflecting the existing lot and fencing patterns of these heritage buildings through setbacks on each of the lots (Figure 3). For lots currently not containing existing dwellings, the whole of the proposed lots have been assessed, while for lots with existing dwellings that contain building envelopes, only land within and adjacent to the building envelopes are being assessed. It is assumed the six lots containing heritage listed dwellings will not have vegetation removed, with the exception of the small envelope adjacent to heritage building that would be inclusive of lot 17 in Figure 3.

No remnant native vegetation was recorded within the study area. All vegetation present within the study area was validated as either planted native vegetation, planted exotic vegetation or exotic grass. The proposed subdivision would involve future works that could remove up to 0.05 ha of planted native vegetation. This amount means that the BOS area clearing threshold is not exceeded and therefore a BDAR is not required as part of this DA. Additionally, the study area does not contain land that falls under the BV Map, another trigger for the BOS, and therefore a BDAR is not required. The remaining areas that could be affected by the future works includes 0.66 ha of planted exotic vegetation, 0.57 ha of exotic grass and 0.08 of existing infrastructure/hardstand areas.

No threatened ecological communities, flora or fauna species were identified in the study area during field surveys.

Potential impacts to threatened species and communities listed under the BC Act and EPBC Act were assessed. This was performed by undertaking a Likelihood of Occurrence Assessment for threatened ecological communities and threatened and migratory species identified from the database search. A Test of Significance under the BC Act and an Assessment of Significance under the EPBC Act were undertaken for grey-headed flying-fox due to the findings of the Likelihood of Occurrence Assessment (Appendix A). Both assessments concluded that the future works associated with the proposed subdivision is unlikely to result in a significant impact to grey-headed flying-fox.

Mitigation measures have been recommended for potential future works relating to the purpose of the subdivision. These aim to prevent direct or indirect impacts to native planted vegetation to be retained within and adjacent to the study area. Following these mitigation measures, it is unlikely the proposed subdivision will have a significant effect on the biodiversity values. Therefore, no further assessments for potential impacts on biodiversity values are required for the proposed works.

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Appendix A Likelihood of occurrence

The table below provides the collated results from the 5 km database searches (buffered around the study area) of the NSW Wildlife Atlas and the EPBC Protected Matters Search Tool. An assessment of likelihood of occurrence was made for threatened communities, and threatened and migratory species identified from the database searches. Five terms for the likelihood of occurrence of species are used in this report. This assessment was based on database or other records, presence or absence of suitable habitat and features of the study area as presented within the results of the preliminary reports, and professional judgement. The terms for likelihood of occurrence are defined below:

- “yes” – the species was or has been observed on the study area
- “likely” – a medium to high probability that a species uses the study area
- “potential” – suitable habitat for a species occurs on the study area, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” – a very low to low probability that a species uses the study area
- “no” – habitat on study area and in the vicinity is unsuitable for the species.

The likelihood of occurrence was only one factor among other factors, which was used to determine whether to apply the Test of Significance’ (5-part test) and/or EPBC Significant Impact Criteria assessments to threatened species, populations, communities or migratory species.

Table 5: Threatened ecological community likelihood table.

Community Name (BC Act / EPBC Act)	BC Act Status	EPBC Act Status	Description	Habitat	Likelihood of Occurrence	Justification	Impact Assessment Required
<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 / White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i>	CE	CE	Open woodland community (sometimes occurring as a forest formation) characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs, and the dominance, or prior dominance, of <i>Eucalyptus albens</i> (White Box), <i>E. melliodora</i> (Yellow Box) and <i>E. blakelyi</i> (Blakely's Red Gum). In the Nandewar Bioregion, <i>Eucalyptus microcarpa</i> or <i>E. moluccana</i> (Grey Box) may also be dominant or co-dominant. The tree-cover is generally discontinuous and consists of widely-spaced trees of medium height in which the canopies are clearly separated. Intact sites contain a high diversity of plant species, including the main tree species, additional tree species, some shrub species, several climbing plant species, many grasses and a very high diversity of herbs	Areas where rainfall is between 400 and 1200 mm per annum, on moderate to highly fertile soils at altitudes of 170 m to 1200 m. Usually found on fertile lower parts of the landscape where soil fertility is relatively high compared to the surrounding landscape.	No	TEC does not occur within the study area.	No
<i>Natural Temperate Grassland of the South Eastern Highlands</i>	-	CE	Natural grassland community dominated by a range of perennial grass species and, in highly intact sites, containing a large range of herbaceous species in many plant families, including daisies, peas, lilies, orchids and plants in many other families, all collectively known as forbs, or "wildflowers" in the case of the showier species. The community is often treeless, though trees of a range of species may occur in low densities, either as isolated individuals or in clumps. Seasonally wet areas within a site may also contain a range of wetland flora species, including rushes, sedges and a variety of wetland specialist forbs. A limited range of shrub species may occur at some sites, but these too occur in low densities.	Ridges, crests, hillsides, undulating plains, valleys and lower slopes, creeks, drainage lines and river flats. Usually associated with heavy textured soils with low nutrient levels.	No	TEC does not occur within the study area.	No

Table 6: Threatened flora species.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Acacia bynoeana</i>	Bynoe's wattle	E	V	Found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains.	Heath or dry sclerophyll forest on sandy soils.	No	No heath or dry sclerophyll forest on sandy soils present in the study area.	No
<i>Diuris aequalis</i>	Buttercup doubletail	E	E	Recorded in Kanangra-Boyd National Park, Gurnang State Forest, towards Wombeyan Caves, the Taralga - Goulburn area, and the ranges between Braidwood, Tarago and Bungendore.	Forest, low open woodland and secondary grassland on the higher parts of the Southern and Central Tablelands.	Potential	Marginal but heavily disturbed habitat present within the study area. Species not recorded during field survey.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Dodonaea procumbens</i>	Trailing hop-bush	V	V	Dry areas of the Monaro, between Michelago and Dalgety, and one population at Lake Bathurst.	Natural Grassland or temperate eucalypt woodland of <i>Eucalyptus pauciflora</i> (Snow Gum), on sandy-clay soils, usually on or near vertically-tilted shale outcrops.	No	No habitat in the form of Snow Gum Forest on or near vertically tilted shale outcrops in the study area.	No
<i>Eucalyptus aggregata</i>	Black gum	V	V	Population located in the Wingecarribee local government area, at Berrima, Medway and Sutton Forest.	Alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Usually occurs in open woodland with a grassy ground layer.	Potential	Habitat marginal within study area, however, species not recorded during field survey and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Eucalyptus macarthurii</i>	Paddys river box	E	E	In NSW, found in the Central and Southern Tablelands, in the South Eastern Highlands Bioregion and on the western fringe of the Sydney Basin Bioregion.	Alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Usually occurs in open woodland with a grassy groundlayer.	Potential	Habitat marginal within study area and two (2) BioNet records within 5 km radius, however; species not recorded during field survey.	No
<i>Hibbertia acaulothrix</i>	-	E	E	From the Moss Vale District to Kanangra Boyd National Park.	Grassy woodland on relatively fertile soils on broad cold flats.	Unlikely	Marginal, heavily disturbed habitat present in study area. Species not recorded during field survey and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Lepidium aschersonii</i>	Spiny peppergrass	V	V	Known is several separated localities in NSW, from Wadbilliga National Park in the Southern Tablelands, through the Nattai-Wollondilly area in the Southern Central Tablelands, to the Mt Baker and Mt Coricudgy area in northern part of the Central Coast and Tablelands.	Rocky outcrops and has been recorded growing in Eucalyptus sieberi woodland or in association with Allocasuarina littoralis (black she-oak), Corymbia gummerifera (red bloodwood), and Leptospermum trinervium (flaky-barked tea-tree).	No	No habitat present in the study area, no BioNet records within locality and species was not recorded during field survey.	No
<i>Lepidium hyssopifolium</i>	Basalt pepper-cress	E	E	In NSW, occurs in the marginal central-western slopes and north-western plains regions (and potentially the south western plains).	Found on ridges of gilgai clays dominated by Acacia harpophylla (Brigalow), Casuarina cristata (Belah), Allocasuarina luehmanii (Buloke) and Eucalyptus microcarpa (Grey Box).	No	No habitat present in the study area, no BioNet records within locality and species was not recorded during field survey.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Leucochrysum albicans</i> subsp. <i>tricolor</i>	Hoary sunray	E	E	In NSW, occurs near Bathurst, Bungendore, and Crookwell. May also be extant near Armidale.	Occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Can occur in modified habitats such as semi-urban areas and roadsides.	Potential	Marginal habitat present in the study area and two (2) BioNet records present in locality, however; no species recorded during field survey.	No
<i>Pomaderris cotoneaster</i>	Cotoneaster pomaderris	E	E	In NSW it occurs on the Southern Tablelands and adjacent areas in an area roughly bounded by Albury, Bega and Goulburn.	Recorded in a range of habitats in predominantly forested country. The habitats include forest with deep, friable soil, amongst rock beside a creek, on rocky forested slopes and in steep gullies between sandstone cliffs.	No	No suitable habitat present in the study area, no BioNet records within locality and no individuals recorded during field survey.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Pomaderris delicata</i>	-	CE	CE	Recorded in NSW from the Nungatta area, northern Kosciuszko National Park (near Tumut), the Tantawangalo area in South-East Forests National Park and adjoining freehold land, Badgery's Lookout near Tallong, the Yerranderie area, the Canyonleigh area and Ettrema Gorge in Morton National Park.	Dry open forest dominated by <i>Eucalyptus sieberi</i> with a dense she-oak understorey. Soils are shallow and derived from sandstone and siltstone.	Unlikely	One (1) BioNet record within locality, however; no suitable habitat present in the study area and no individuals recorded during field survey.	No
<i>Pomaderris pallida</i>	Pale pomaderris	V	V	Known from only two sites; between Goulburn and Bungonia and south of Windellama (Cullula).	Dry open forest dominated by <i>Eucalyptus sieberi</i> with a dense she-oak understorey. Soils are shallow and derived from sandstone and siltstone.	No	No suitable habitat present in study area, no BioNet records within locality and no individuals recorded during field survey.	No

Scientific Name	Common Name	BC	Act	EPBC	Act	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Prasophyllum petilum</i>	Tarengo orchid	Leek	E		E	In NSW, recorded from near Kydra Trig (north-west of Nimmitabel), Tinderry Nature Reserve, the Queanbeyan River (near Queanbeyan), the Shoalhaven River (between Bungonia and Warri), the Murrumbidgee River west of the ACT and the Byadbo area in Kosciuszko National Park.	Shrub communities surrounded by Eucalyptus mannifera (Brittle Gum) and E. macrorhyncha (Red Stringybark) or Callitris woodland.	No	No suitable habitat present in study area, no BioNet records within locality and no individuals recorded during field survey.	No
<i>Rhizanthella slateri</i>	Eastern underground orchid		V		E	Four sites in NSW: at Boorowa, Captains Flat, Ilford and Delegate. Also experimentally introduced at Bowning Cemetery NSW.	Habitat requirements are poorly understood and no particular vegetation type has been associated with the species, although it is known to occur in sclerophyll forest. Highly cryptic given that it grows almost completely below the soil surface, with flowers being the only part of the plant that can occur above ground.	Unlikely	While species is cryptic and habitat requirements are unknown, study area is outside of species known range and no BioNet records present in locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Rutidosia leptorrhynchoides</i>	Button wrinklewort	E	E	In NSW, currently known from fewer than 10 locations, including near Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra.	Sclerophyll forest in shallow to deep loams.	Potential	Habitat marginal in study area and two (2) BioNet records present within locality, however; no individuals recorded during field survey.	No
<i>Senecio macrocarpus</i>	Large-fruit fireweed		V	In NSW, populations occur at Goulburn, the Canberra - Queanbeyan area and at Michelago.	Box-Gum Woodland, secondary derived grassland or in Natural Temperate Grassland, usually on shallow, stony red-brown clay loams. Can colonise disturbed areas (e.g., vehicle tracks, erosion etc.)	Unlikely	Habitat marginal in the study area in the form of heavily disturbed grassland, however; no BioNet records within locality and no individual recorded during field survey.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Swainsona recta</i>	Small purple-pea	E	E	One population has been discovered near Gundaroo, NSW with other populations found in more abundance in Yorke Peninsula western SA and across to Victoria between Wimmera and Melbourne.	NSW populations occur in partly cleared dry forests and box-gum woodlands which transition to Brittle Gum Forest with a relatively undisturbed understorey of native grasses, forbes and subshrubs.	No	No habitat in the form of forest or woodland present in the study area, no BioNet records within locality and no individuals recorded during field survey.	No
<i>Thesium australe</i>	Austral toadflax	V	V	Queanbeyan and Wellington-Mudgee areas. Historically also recorded at Carcoar, Culcairn and Wagga Wagga.	In grassland on coastal headlands or grassland and grassy woodland away from the coast. Often found in association with Kangaroo Grass (<i>Themeda australis</i>).	No	No <i>Themeda australis</i> present in the study area, no BioNet records within locality and no individuals recorded during field survey.	No

Table 7: Threatened fauna

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
Birds								
<i>Actitis hypoleucos</i>	Common sandpiper		M	Summer migrant. In NSW, widespread along coastline and also occurs in many areas inland.	Coastal wetlands and some inland wetlands, especially muddy margins or rocky shores. Also, estuaries and deltas, lakes, pools, billabongs, reservoirs, dams and claypans, mangroves.	No	No wetland habitat present in study area, no BioNet records within locality and no individuals recorded during field survey.	No
<i>Anthochaera phrygia</i>	Regent honeyeater	CE	CE	Inland slopes of south-east Australia, and less frequently in coastal areas. In NSW, most records are from the North-West Plains, North-West and South-West Slopes, Northern Tablelands, Central Tablelands and Southern Tablelands regions; also recorded in the Central Coast and Hunter Valley regions.	Eucalypt woodland and open forest, wooded farmland and urban areas with mature eucalypts, and riparian forests of <i>Casuarina cunninghamiana</i> (River Oak). These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes.	No	No Sheoaks or mistletoe present in study area, no BioNet records within locality and no individuals recorded during field survey.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Aphelocephala leucopsis</i>	Southern whiteface	V	V	Occurs across most of mainland Australia south of the tropics from the north-eastern edge of WA wheatbelt, east to the Great Dividing Range.	Usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains. Critical habitat includes relatively undisturbed open woodlands and shrublands with an understorey of grasses or shrubs, or both. Habitat with low tree densities and an herbaceous understorey litter cover with provides essential foraging habitat. Living and dead trees with hollows and crevices which are essential for roosting and nesting.	No	No suitable habitat present in the study area and no BioNet records within locality.	No
<i>Apus pacificus</i>	Fork-tailed swift		M	Recorded in all regions of NSW.	Riparian woodland., swamps, low scrub, heathland, saltmarsh, grassland, Spinifex sandplains, open farmland and inland and coastal sand-dunes.	No	No suitable habitat present in the study area and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Artamus cyanopterus cyanopterus</i>	Dusky woodswallow	V		Widespread in NSW from coast to inland including the western slopes of the Great Dividing Range and farther west. Species have also been recorded in southern and southwestern Australia.	Woodlands and dry open sclerophyll forest, usually eucalypts and mallee associations. Also have recordings in shrub and heathlands and various modified habitats, including regenerating forests. In western NSW, this species is primarily associated with River Red Gum/Black Box/Coolabah open forest/woodland and associated with larger river/creek systems.	No	No suitable habitat present in the study area and no BioNet records within locality.	No
<i>Botaurus poiciloptilus</i>	Australasian bittern	E	E	Found over most of NSW except for the far north-west.	Permanent freshwater wetlands with tall, dense vegetation, particularly <i>Typha</i> spp. (bullrushes) and <i>Eleocharis</i> spp. (spikerushes).	No	No suitable habitat in the form of permanent wetlands present in the study area and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Calidris acuminata</i>	Sharp-tailed sandpiper		V, M	Summer migrant. Widespread in most regions of NSW, especially in coastal areas, but sparse in the south-central Western Plain and east Lower Western Regions.	Shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	No	No suitable habitat in the form of wetlands present in the study area and no BioNet records within locality.	No
<i>Calidris ferruginea</i>	Curlew sandpiper	CE	CE, M	Occurs along the entire coast of NSW, and sometimes in freshwater wetlands in the Murray-Darling Basin.	Littoral and estuarine habitats, including intertidal mudflats, non-tidal swamps, lakes and lagoons on the coast and sometimes inland.	No	No estuarine or littoral habitat present the study area and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Calidris melanotos</i>	Pectoral sandpiper		M	Summer migrant to Australia. Widespread but scattered in NSW. East of the Great Divide, recorded from Casino and Ballina, south to Ulladulla. West of the Great Divide, widespread in the Riverina and Lower Western regions.	Shallow fresh to saline wetlands, including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	No	No suitable habitat in the form of wetlands present in the study area and no BioNet records within locality.	No
<i>Callocephalon fimbriatum</i>	Gang-gang cockatoo	E	E	In NSW, distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. Isolated records known from as far north as Coffs Harbour and as far west as Mudgee.	Tall mountain forests and woodlands in summer, particularly mature wet sclerophyll; in winter, may occur at lower altitudes in open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, and urban areas.	Unlikely	One (1) BioNet record 1.5 km from study area, however; no suitable habitat present in the form of mountain forests, mature wet sclerophyll forests or box-gum and box-ironbark assemblages.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Calyptorhynchus lathamii lathamii</i>	South-eastern glossy black-cockatoo		V	This species is uncommon but widespread throughout suitable forest and woodland habitats. In NSW, it occurs along the entire coast, in towards the southern tablelands and central western plains.	Open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur.	No	No Sheoaks present in the study area and no BioNet records within locality.	No
<i>Climacteris picumnus victoriae</i>	Brown treecreeper (south-eastern)	V	V	In NSW, the western boundary of the range runs approximately through Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell. This subspecies is less commonly found on coastal plains and ranges.	Eucalypt woodlands and dry open forest, mainly dominated by stringybarks / rough-barked eucalypts, with open grassy understoreys and fallen timber, also in mallee and Eucalyptus camaldulensis Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not in woodlands with dense shrub layers.	No	No woodlands, forests and no structural habitat present in the study area and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Daphoenositta chrysoptera</i>	Varied sittella	V		Distribution in NSW is nearly continuous from the coast to the far west.	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland	No	No suitable habitat present in the study area in the form of forests, woodlands, rough-barked species, mallee or acacia woodlands and no BioNet records within locality.	No
<i>Epthianura albifrons</i>	White-fronted chat	V		In NSW, it occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state.	Damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is predominantly in saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas. On bare or grassy ground in wetland areas	No	No suitable habitat present in the study area in the form of damp open habitats near waterways / wetlands, and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Falco hypoleucos</i>	Grey falcon	V	V	Sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range.	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	No	No suitable habitat in the study area in the form of native shrublands, grasslands, wooded watercourses, wetlands or woodlands. No BioNet records within locality.	No
<i>Falco subniger</i>	Black falcon	V		Widely, but sparsely, distributed in NSW, mostly occurring in inland regions	Inhabits a diverse range of habitats, soaring above shrublands and grasslands to woodlands and farmlands. Typically, in locations with streams and wetlands, using dead trees as perches for locating prey.	Unlikely	No suitable habitat in the study area in the form of dead trees, riparian zones, wetlands, streams, woodlands, shrublands, grasslands or farmlands. The Black Falcon will likely fly above the study area but not within it. One (1) BioNet record exists for this species within the locality and it is in the riparian corridor of the Wollondilly River, 2 km to the south.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Gallinago hardwickii</i>	Latham's snipe	V	V, M	Non-breeding visitor to the southeast of Australia. The range extends along the east and south coast of NSW, and west of the Great Dividing Range in NSW. Most birds spend the non-breeding period at sites south of the Richmond River.	Feed in soft mudflats or shallow water typically at night, early morning, or evening. Shelter during the day in small wetlands including urban water bodies, saltmarshes and creek edges, where there is adequate shallow flooded or inundated substrate. They also use crops and pasture.	No	One (1) BioNet record 4.5 km southwest along the Wollondilly River, however; no suitable habitat present within the study area.	No
<i>Grantiella picta</i>	Painted honeyeater	V	V	Occurs inland of the Great Dividing Range.	Inhabits Boree/ Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) and Box-Gum Woodlands and Box-Ironbark Forests.	No	No suitable habitat in the study area in the form of <i>Acacia pendula</i> , <i>A. harpophylla</i> , Box-Gum or Box-Ironbark. No BioNet records in locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle	V		In NSW, it is widespread along the east coast, and along all major inland rivers and waterways.	Inhabits large areas of open water including larger rivers, swamps, lakes, and the sea. Occupies coastal dunes, tidal flats, grassland, heathland, woodland, and forest (incl. rainforest). Breeds in mature tall open forest, open forest, tall woodland, and swamp sclerophyll forest close to foraging habitat.	No	No suitable habitat in the form of open water, dunes, heathland, woodland or forest in the study area. No BioNet records within locality.	No
<i>Hieraetus morphnoides</i>	Little eagle	V		Occurs throughout the Australian mainland except in the most densely forested parts of the Dividing Range escarpment.	Occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch.	Potential	Four (4) BioNet records recorded within locality, however, no suitable habitat in the form of open eucalypt forest, woodland, stands of Sheoak, Acacia woodlands or remnant patches within study area.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Hirundapus caudacutus</i>	White-throated needletail	V	V, M	More common in eastern NSW and in coastal areas, less so inland. Can occur into the inland western slopes of the Great Dividing Range.	Aerial. Although they occur over most types of habitat, they are recorded most often above wooded areas, including open forest and rainforest, and may also fly below the canopy between trees or in clearings.	No	No suitable habitat in study area and no BioNet records within locality.	No
<i>Lathamus discolor</i>	Swift parrot	E	CE, M	Migrates to southeast Australia in Feb – Oct. In NSW it mostly occurs on the coast and southwest slopes.	Occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such <i>Eucalyptus robusta</i> , <i>Corymbia maculata</i> , <i>C. gummifera</i> , <i>E. tereticornis</i> , <i>E. sideroxylon</i> , and <i>E. albens</i> .	Unlikely	No favoured feed tree species or lerp recorded in the study area during field survey. No BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Melanodryas cucullata cucullata</i>	South-eastern hooded robin	E	E	Found throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies <i>picata</i> .	Open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.	No	No suitable habitat in the study area in the form of tall native grasses, structurally diverse woodlands, acacia scrub or mallee. No BioNet records are present within locality.	No
<i>Motacilla flava</i>	Yellow wagtail		M	Regular summer migrant to mostly coastal Australia. In NSW recorded Sydney to Newcastle, the Hawkesbury and inland in the Bogan LGA.	Swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land, town lands, bare ground and short grass (Pizzey and Knight, 2007).	No	Marginal habitat in the form of short grass town lands, however, no BioNet records within locality and study area is outside of known distribution range (BioNet, 2025).	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Neophema chrysostoma</i>	Blue-winged parrot	V	V	A partial migrant, during the non-breeding period, from autumn to early spring, birds are recorded from northern VIC, eastern SA, south-western QLD and western NSW, with some birds reaching south-eastern NSW and eastern VIC. The species breeds in TAS, coastal south-eastern SA and southern VIC in spring-summer.	The species inhabits a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. Prefers grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones. Forage mainly near or on the ground for seeds of a wide range of native and introduced grasses, herbs and shrubs.	Unlikely	Limited native groundcover present in study area and no BioNet records within locality.	No
<i>Oxyura australis</i>	Blue-billed duck	V		Widespread in NSW, but is most concentrated in the southern Murray-Darling Basin area.	Coastal and inland wetlands and swamps.	No	No suitable habitat in the study area in the form of wetlands and swamps, and no BioNet records within locality.	

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Petroica boodang</i>	Scarlet robin	V		In NSW, it occurs from the coast to the inland slopes.	Dry eucalypt forests and woodlands, and occasionally in mallee, wet forest, wetlands and tea-tree swamps. Abundant logs and fallen timber are important habitat components.	Unlikely	No suitable habitat in the form of forest, woodland, mallee, wetlands, swamps or abundance woody debris in the study area. No BioNet records within locality.	No
<i>Polytelis swainsonii</i>	Superb parrot	V	V	In NSW, occurs on inland slopes of the Great Divide and on adjacent plains, especially along the major river-systems.	Box-gum woodland, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. Nest in tree hollows.	Unlikely	No suitable habitat tree species or hollows present in the study area and no BioNet records within the locality.	

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Pycnoptilus floccosus</i>	Pilotbird	V	V	Endemic to south-east Australia. Upland Pilotbirds occur above 600 m in the Brindabella Ranges in the ACT, and in the Snowy Mountains in NSW and north-east VIC. Lowland Pilotbirds occur in forests from the Blue Mountains west of Newcastle, around the wetter forests of eastern Australia, to Dandenong near Melbourne.	Strictly terrestrial, living on the ground in dense forests with heavy undergrowth. Largely sedentary, they are typically seen hopping briskly over the forest floor and foraging on damp ground or among leaf-litter. Flight is described as fairly weak, though, if disturbed, birds can sometimes ascend into shrubs.	No	No suitable habitat in the study area in the form of dense forests with heavy undergrowth and no BioNet records within locality.	
<i>Pyrrholaemus sagittatus</i>	Speckled warbler	V		Patchy distribution throughout eastern NSW. Most frequently reported from the hills and tablelands of the Great Dividing Range, and rarely from the coast.	A wide range of Eucalyptus dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy.	Unlikely	One (1) BioNet record exists 1.9 km to the northeast of the study area, in a vegetated forest patch along Wollondilly River. However, no suitable habitat is present within the study area.	

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Rostratula australis</i>	Australian painted snipe	E	E	In NSW most records are from the Murray-Darling Basin. Other recent records include wetlands on the Hawkesbury River and the Clarence and lower Hunter Valleys.	Swamps, dams and nearby marshy areas.	No	No suitable habitat in the study area and no BioNet records within locality.	No
<i>Stagonopleura guttata</i>	Diamond firetail	V	V	Widely distributed in NSW, mainly recorded in the Northern, Central and Southern Tablelands, the Northern, Central and South Western Slopes and the North West Plains and Riverina, and less commonly found in coastal areas and further inland.	Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum <i>Eucalyptus pauciflora</i> Woodlands. Also in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often in riparian areas, and sometimes in lightly wooded farmland.	Unlikely	One BioNet record in farmland to the east of the study area. No suitable habitat in the form of native grasslands, eucalypt woodlands or mallee in study area.	

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>NoStictonetta naevosa</i>	Freckled duck	V		Inland river systems, occurring as far as coastal NSW in times of drought.	Freshwater swamps and creeks, lakes, reservoirs, farm dams and sewage ponds.	No	No freshwater swamps and creeks, lakes, reservoirs, farm dams and sewage ponds in the study area and no BioNet records within locality.	

Mammals

<i>Chalinolobus dwyeri</i>	Large-eared pied bat	E	E	Recorded from Rockhampton in Qld south to Ulladulla in NSW. Largest concentrations of populations occur in the sandstone escarpments of the Sydney basin and the NSW north-west slopes.	Wet and dry sclerophyll forests, Cypress Pine dominated forest, woodland, sub-alpine woodland, edges of rainforests and sandstone outcrop country. Roosts in caves, rock overhangs and disused mine shafts, possibly tree hollows.	No	No suitable habitat in the study area and no BioNet records within locality.	No
<i>Dasyurus maculatus maculatus</i>	Spotted-tailed quoll, (southeastern mainland population)	V	E	Found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Qld.	Rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	No	No suitable habitat in the study area and no BioNet records within locality.	No
<i>Falsistrellus tasmaniensis</i>	Eastern false pipistrelle	V		South-east coast and ranges of Australia, from southern Qld to Victoria	Tall (greater than 20m) moist habitats. Generally roosts in eucalypt hollows.	No	No suitable habitat in the study area and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
				and Tasmania. In NSW, records extend to the western slopes of the Great Dividing Range.				
<i>Micronomus norfolkensis</i>	Eastern coastal free-tailed Bat	V		Found along the east coast from south Qld to southern NSW.	Dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range.	Unlikely	One (1) BioNet record within locality, however; no suitable habitat present in the study area.	No
<i>Miniopterus australis</i>	Little bent-winged bat	V		East coast and ranges south to Wollongong in NSW.	Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and buildings, forage beneath densely vegetated canopies.	Unlikely	One (1) BioNet record within the locality, however; no suitable habitat present in study area. No signs of bat use identified within buildings during field survey.	No
<i>Miniopterus orianae oceanensis</i>	Large bent-winged bat	V		In NSW it occurs on both sides of the Great Dividing Range, from the coast inland to Moree, Dubbo, and Wagga Wagga.	Rainforest, wet and dry sclerophyll forest, monsoon forest, open woodland, paperbark forests and open grassland. It forages above and below the tree canopy on small insects, especially moths.	Unlikely	Six (6) BioNet records in locality, however, no suitable habitat in the form of rainforest, sclerophyll, monsoon or paperbark forests, open woodland or native grassland in the study area.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
					Roosts in caves but also mines, tunnels and buildings.			
<i>Petauroides volans</i>	Greater glider (southern and central)	E	E	Eastern Australia, from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest).	Eucalypt forests and woodlands. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.	No	No suitable habitat in the study area and no BioNet records within locality.	No
<i>Petaurus australis</i>	Yellow-bellied glider (south-eastern)	V	V	Along the eastern coast to the western slopes of the Great Dividing Range, from southern Qld to Victoria.	Tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils.	No	No suitable habitat in the study area and no BioNet records within locality.	No
<i>Petrogale penicillata</i>	Brush-tailed rock-wallaby	E	V	In NSW they occur from the Qld border in the north to the Shoalhaven in the south, with the population in the Warrumbungle Ranges being the western limit.	Rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges.	No	No suitable habitat in the form of rocky escarpments, outcrops and cliffs in study area.	No
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	E	E	In NSW it mainly occurs on the central and north coasts with some populations in the west of the Great Dividing Range. There are sparse and possibly disjunct populations in the Bega	Eucalypt woodlands and forests.	Unlikely	Marginal habitat in the study area in the form of large eucalypts, however, heavily fragmented and no BioNet records within a 7 km radius.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
				District, and at several sites on the southern tablelands.				
<i>Pteropus poliocephalus</i>	Grey-headed flying-fox	V	V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria.	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	Known	Marginal habitat in the study area in the form of urban gardens with large eucalypts. Multiple BioNet records within locality including one (1) BioNet record within 300 m of study area.	Yes
<i>Saccolaimus flaviventris</i>	Yellow-bellied sheathtail-bat	V		There are scattered records of this species across the New England Tablelands and North West Slopes. Rare visitor in late summer and autumn to south-western NSW.	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country.	Unlikely	One (1) BioNet record within locality, however, no suitable habitat in the form of tree hollows or forests in the study area. No signs of bat use were recorded in the buildings during the field survey.	No
Herpetofauna								
<i>Aprasia parapulchella</i>	Pink-tailed worm-lizard, pink-tailed legless lizard	V	V	In NSW, only known from the Central and Southern Tablelands, and the South Western Slopes.	Sloping, open woodland areas with predominantly native grassy ground layers, rocky outcrops or scattered, partially-buried rocks.	No	No suitable habitat in the form of native grassy ground layer in the study area and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Delma impar</i>	Striped legless lizard, striped snake-lizard	V	V	In NSW, occurs in the Southern Tablelands, the South West Slopes and possibly on the Riverina.	Natural Temperate Grassland, secondary and modified grassland, open Box-Gum Woodland.	No	No suitable habitat in the form of native grassy ground layer in the study area and no BioNet records within locality.	No
<i>Litoria aurea</i>	Green and golden bell frog	E	V	Since 1990, recorded from ~50 scattered sites within its former range in NSW, from the north coast near Brunswick Heads, south along the coast to Victoria. Records exist west to Bathurst, Tumut and the ACT region.	Marshes, dams and stream-sides, particularly those containing <i>Typha</i> spp. (bullrushes) or <i>Eleocharis</i> spp. (spikerushes). Some populations occur in highly disturbed areas.	No	No suitable habitat in the form of marshes, dams or streamside in study area and no BioNet records within locality.	No
Insects								
<i>Keyacris scurra</i>	Key's matchstick grasshopper	E	E	In NSW, the known distribution for this species occurs from Kosciuszko NP, up through Wagga Wagga, Parkes and Dubbo and then west of Mudgee, Goulburn and Bombala.	Typically found in native grasslands and grassy woodlands but it has also been recorded in other vegetation associations usually containing a native grass understory (especially kangaroo grass <i>Themeda triandra</i>) and known food plants (particularly <i>Asteraceae</i>).	No	No suitable habitat in the form of a native grassy understorey in study area, no known food plant species present and no BioNet records within locality.	No

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence	Justification	Impact Assessment Required
<i>Synemon plana</i>	Golden sun moth	V	V	NSW populations are found in the area between Queanbeyan, Gunning, Young and Tumut.	Natural Temperate Grasslands and grassy Box-Gum Woodlands in which ground layer is dominated by <i>Austrodanthonia</i> spp. (wallaby grasses).	No	No suitable habitat in the form of a native grassy understorey dominated by wallaby grasses and no BioNet records within locality.	No

BC ACT STATUS: CE = CRITICALLY ENDANGERED; E = ENDANGERED; V=VULNERABLE; EPBC ACT STATUS: CE = CRITICALLY ENDANGERED, E = ENDANGERED, V = VULNERABLE, M = MIGRATORY

Appendix B BC Act Test of Significance

Under Part 7, Division 1 of the NSW BC Act, the Test of Significance is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. This test has been applied to ecological communities and species listed under the BC Act that are considered to be potentially impacted by the proposal.

Species that have been assessed against the Test of Significance were identified through the development of the Likelihood of Occurrence (Appendix A). The following threatened species and populations are assessed below:

Fauna

- Mammals
 - *Pteropus poliocephalus* (grey-headed flying-fox)

GREY-HEADED FLYING FOX

The Grey-headed Flying-fox (GHFF) is listed as vulnerable under the EPBC Act. While the proposed DA, which contains GHFF use trees, does not involve the removal of vegetation within the study area, Tests of Significance were still undertaken should the subdivision result in disturbance that effects the species foraging behaviour in the study area.

No known GHFF camps are present within the study area, with the three closest GHFF camps being situated over 60 km away (Table 9). None of these three camps are nationally important, which is defined within the GHFF Recovery Plan (DAWE, 2021) as camps:

that have contained $\geq 10,000$ Grey-headed Flying-foxes in more than one year in the last 10 years, or have been occupied by more than 2,500 Grey-headed Flying-foxes permanently or seasonally every year for the last 10 years.

The potential foraging habitat within the study area is marginal, being four (4) Eucalyptus individuals and one (1) Melaleuca individual, and would not be relied upon as a sole foraging resource for this species.

Table 8: Grey-headed Flying Fox Camps in proximity to study area

Location	Distance from study area (km)	Last survey date	No. of individuals	Nationally important?
Moss Vale	60	February 2017	1 – 499	No
Nowra, Bugong Creek	66	November 2017	500 – 2,499	No
Yass	78.2	February 2021	1 – 499	No

Table 9: BC Act Test of Significance for GHFF

BC Act	Question	Response
7.3.1(a)	In the case of a threatened species: whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	<p>There are no known flying fox camps within the study area (DCCEEW, 2025a). The nearest camp is located at Moss Vale approximately 60 km northeast of the study area.</p> <p>The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. The works will not result in impacts to breeding habitat in the form of camps.</p> <p>It is considered unlikely that the proposal would place a viable population of the species at risk of extinction given that the area of potential habitat is small in extent and would only be used occasionally, as part of a mosaic of foraging resources.</p>
7.3.1(b) (i)	In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	N/A
7.3.1(b) (ii)	In the case of an endangered ecological community or critically endangered ecological community: Whether the proposed development or activity is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	N/A
7.3.1(c) (i)	In relation to the habitat of a threatened species or ecological community: The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity	Impacts to potential foraging habitat for this species would be negligible, if not, minimal. The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. No camps will be impacted.
7.3.1(c) (ii)	In relation to the habitat of a threatened species or ecological community: Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity	The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. Additionally, native vegetation is available in the general landscape, surrounding the impact area. This highly mobile species could also access this area of similar vegetation, however, would likely only rely on this as marginal foraging habitat as part of a network of resources across the wider landscape. GHFF typically forages up to 20 km per night but has been recorded up to 148 km from their camps (DAWE, 2021). The GHFF is unlikely to rely solely on this patch of habitat. The DA will not cause fragmentation or isolation, as

BC Act	Question	Response
		vegetation is not proposed to be removed and this highly mobile species is still able to disperse between habitat in the locality. As such, the proposed action will not significantly impact the connectivity of GHFF habitat or separate a camp from their nearest foraging habitat.
7.3.1(c) (iii)	In relation to the habitat of a threatened species or ecological community: The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.	The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. Additionally, this small area of habitat is not considered vital to the long-term survival of this species within the locality because the species is highly mobile and would be able to continue foraging in similar or better quality vegetation, with foraging opportunities existing within the riparian corridor of Wollondilly River and to the northeast in the forested patch within and surrounding Cookbundoon Nature Reserve, approximately 10.1 km away from the study area. The vegetation in the study area is heavily fragmented and is unlikely to represent important foraging resources for GHFF.
7.3.1(d)	Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).	The proposal would not impact any declared Areas of Outstanding Biodiversity Value.
7.3.1(e)	Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The proposed subdivision would not form part of a key threatening process.
• Conclusion	• Is there likely to be a significant impact?	<ul style="list-style-type: none"> • The proposal is unlikely to have a significant impact on GHFF for the following reasons: • The action area contains a marginal amount potential foraging habitat in the form of planted native and planted exotic vegetation (0.61 ha). • GHFF is unlikely to rely on these patches of habitat, and would only occasionally use it as part of a broader network of foraging resources across the landscape • Additional foraging habitat is available just outside the study area, in the riparian corridor of Wollondilly River and in Cookbundoon Nature Reserve (approximately 10.1 km north east) and surrounding forest • The proposal would not result in fragmentation of foraging habitat for the species. • No breeding habitat (camps) would be affected by the proposal.
•		

Appendix C EPBC Act Assessment of Significance

This section has been prepared to consider the impacts to MNES under the Commonwealth EPBC Act.

Species that have been assessed against the assessment of significance were identified through the development of the Likelihood of Occurrence (Appendix A). The following threatened species are assessed below:

Vulnerable Species

- *Pteropus poliocephalus* (grey-headed flying-fox)

VULNERABLE SPECIES

The grey-headed flying-fox (GHFF) is listed as vulnerable under the EPBC Act. While the proposed DA, which contains GHFF use trees, does not involve the removal of vegetation within the study area, an Assessment of Significance was undertaken should the subdivision result in disturbance that effects the species foraging behaviour in the study area.

No known GHFF camps are present within the study area, with the closest camp being located 60 km northeast (Table 9). The potential foraging habitat within the study area is marginal and would not be relied upon as a sole foraging resource for this species. However, considering GHFF have been recorded travelling up to 148 km from their camps (DAWE, 2021) and the GHFF has been previously recorded within 5 km of the study area, a significance assessment has been undertaken in accordance with Significant impact guidelines 1.1 under the EPBC Act (DCCEEW, 2013) (Table 11).

Table 10: EPBC Act Assessment for *Pteropus poliocephalus* (Grey-headed Flying-fox)

Criterion	Assessment
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of an important population of a species	<p>The <i>Matters of National Environmental Significance Impact Guidelines 1.1</i> (DCCEEW, 2013) defines an important population as a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:</p> <ul style="list-style-type: none"> • Key source populations either for breeding or dispersal • Populations that are necessary for maintaining genetic diversity, and/or • Populations that are near the limit of the species range <p>GHFF is considered one population due to the constant exchange of genetic material between individuals and its movement between camps throughout its entire geographic range (DCCEEW, 2025c). Maternity or other roosting habitat is considered important habitat for this species. According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the study area (DCCEEW, 2025a). The nearest GHFF camp occurs at Moss Vale approximately 60 km northeast of the study area and is not considered a nationally important camp.</p> <p>The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat.</p> <p>GHFF is recorded as travelling long distances (up to 148 km) on feeding forays. Given the proposed action will not remove any feed species and given the proximity of suitable habitat outside the action area, the proposed action will not lead to the long-term decrease in the size of an important population of GHFF.</p>

Criterion	Assessment
reduce the area of occupancy of an important population	The proposed action will not reduce the extent of available foraging habitat for the GHFF. The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. The action area does not contain known breeding or sheltering habitat in the form of bat camps. GHFF is known to fly long distances (usually only 20 km but has been recorded up to 148 km per night) and move between bat camps. As such this species is likely to utilise a large extent of habitat around the Moss Vale camp which may include some habitat within the impact area and a large amount of habitat in adjacent lands. Due to the extent of habitat within a 20 km radius of the known bat camp at Moss Vale, the action proposed 60 km away is unlikely to significantly reduce the area of occupancy for this species.
fragment an existing important population into two or more populations	The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. No camps will be affected, and other areas of more suitable foraging habitat are present just outside the study area. The species is highly mobile, and the proposed action will not fragment an existing important population into two or more populations. Whilst the potential foraging habitat may contribute as a 'stepping stone' for this highly mobile species to other more substantial foraging habitat sites, this function is won't be significantly inhibited by the proposed action, given the vegetation is to be preserved, the species foraging range and presence of other foraging habitat nearby. Habitat within the riparian corridor of Wollondilly River to the east and within Cookbundoon Nature Reserve and surrounding forest to the northeast of the study area will provide foraging habitat for this species. This species is likely to continue to forage in and adjacent to the study area and across the broader landscape. Therefore, the proposed action is unlikely to fragment an existing important population into two or more populations.
adversely affect habitat critical to the survival of a species	<p>The National Recovery Plan for the Grey-headed Flying-fox (DAWE, 2021) states that the blossoms from myrtaceous species, including <i>Eucalyptus</i>, <i>Corymbia</i> and <i>Angophora</i>, melaleucas and banksias, are important food sources.</p> <p>These species are considered important foraging resources for GHFF. The plan also identifies habitat which contains native species used for foraging and occur within 20 km of a nationally important camp and native or exotic species used for roosting at the study area of a nationally important GHFF camp as critical habitat important to the survival of the species. The study area does contain native Eucalypts and one Melaleuca potentially used for foraging, but these are not to be removed, and the study area is not within 20 km of a nationally important camp. The action area is therefore not considered critical habitat under the National Recovery Plan (DAWE, 2021).</p> <p>No camps will be directly affected by the proposed action.</p> <p>Additionally, given that this species is highly mobile (traveling up to 148 km for forage), vegetation in the study area is to be maintained and similar habitat resources are available within the vicinity of the study area and broader locality, it is considered unlikely that the action will adversely affect habitat critical to the survival of this species.</p>
disrupt the breeding cycle of an important population	The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. The proposed action will not disrupt the breeding cycle of GHFF given that no camps will be affected

Criterion	Assessment
	by the proposed action and suitable foraging habitat will remain available inside and outside of the study area.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The action area contains at least 0.61 ha of potential foraging habitat in the form of planted native and planted exotic vegetation, however, the action is not proposing to remove any of this potential foraging habitat. Given vegetation is to be retained, habitat is likely to be available outside of the impact area and that this species is highly mobile, it is unlikely proposed action would cause the species to decline. Further, according to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the study area (DCCEEW, 2025a). The nearest active GHFF camp occurs approximately 60 km to the northeast at Moss Vale. Therefore, no known GHFF roosting camps for this species will be affected by the proposed action.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to GHFF.
Introduce disease that may cause the species to decline	GHFF are reservoirs for the Australian bat lyssavirus which can cause clinical disease and mortality in GHFF. The species also carries and Hendra virus, although it does not cause evident clinical disease in flying-foxes. Lyssavirus infection is higher when individuals are under stress. The proposed action would not increase the incidence of Lyssavirus, as no camps would be directly affected, and foraging habitat will remain available inside and outside of the study area.
Interfere substantially with the recovery of the species	Considering the above factors, the proposed action will not interfere substantially with the recovery of the species.
Conclusion	<p>In consideration of the above, the proposed action is considered unlikely to have a significant impact on GHFF because:</p> <ul style="list-style-type: none"> • No camp or habitat important to the lifecycle of this species will be affected. • No critical habitat will be affected. • The proposed action will not result in fragmentation of habitats. • Foraging resources as well as better condition vegetation is available for GHFF to use nearby the study area.

Appendix D Flora species list

Table 11: Flora species identified during field survey

Scientific name	Common name
<i>Agave americana</i> *	Century plant
<i>Agave</i> sp.*	-
<i>Apogonanthus</i> sp.*	-
<i>Araucaria bidwillii</i>	Bunya pine
<i>Avena barbata</i> *	Bearded oats
<i>Bothriochloa macra</i>	Red grass
<i>Bromus catharticus</i> *	Prairie grass
<i>Cenchrus clandestinus</i> *	Kikuya grass
<i>Chloris truncata</i>	Windmill grass
<i>Conyza bonariensis</i> *	Flaxleaf fleabane
<i>Cynodon dactylon</i>	Bermuda grass
<i>Eleusine tristachya</i> *	Goose grass
<i>Eragrostis curvula</i> *	African lovegrass
<i>Eucalyptus bicostata</i>	Southern blue gum
<i>Eucalyptus mannifera</i>	Brittle gum
<i>Eucalyptus macrorhyncha</i>	Red stringybark
<i>Eucalyptus nicholii</i>	Narrow-leaved peppermint
<i>Hordeum vulgare</i> *	Barely
<i>Hydrocotyle</i> sp.*	-
<i>Hypochaeris</i> sp.*	-
<i>Livistona australis</i>	Cabbage palm
<i>Lotus</i> sp.	-
<i>Melaleuca styphelioides</i>	Prickly-leaved tea tree
<i>Microlaena stipoides</i>	Weeping grass
<i>Oxalis perennans</i>	Native oxalis
<i>Paspalum dilatatum</i> *	Paspalum
<i>Passiflora caerulea</i> *	Blue passionflower
<i>Plantago lanceolata</i> *	Plantain
<i>Populus x canescens</i>	Grey poplar
<i>Rubus fruticosus</i> spp. agg***	Blackberry
<i>Schinus mollee</i> *	Pepper tree
<i>Sisymbrium irio</i> *	London rocket
<i>Sporobolus creber</i>	Slender rat's tail grass
<i>Trifolium pratense</i> *	Red clover
<i>Trifolium repens</i> *	White clover

Key: * = exotic, *** = State Priority Weed and Weed of National Significance

Appendix E Fauna species list

Table 12: Fauna species observed during field surveys.

Scientific name	Common name
<i>Cacatua galerita</i>	Sulphur-crested cockatoo
<i>Cracticus torquatus</i>	Grey butcherbird
<i>Gymnorhina tibicen</i>	Australian magpie
<i>Haliastur sphenurus</i>	Whistling kite
<i>Malurus cyaneus</i>	Superb fairywren
<i>Ocyphaps lophotes</i>	Crested pigeon
<i>Oryctolagus cuniculus</i> *	Rabbit
<i>Platycercus elegans</i>	Crimson rosella
<i>Platycercus eximius</i>	Eastern rosella
<i>Rhipidura albiscapa</i>	Grey fantail

* denotes exotic species