



TAMWORTH REGIONAL COUNCIL

FLORA AND FAUNA ASSESSMENT

For proposed

REZONING

Duri Road

Tamworth NSW 2340

Prepared for: Tamworth Regional Council
PO Box 555
Tamworth, NSW 2340

Our reference: 13151

121 Bridge Street
PO Box 1568
Tamworth NSW 2340

P 02 6762 4411 F 02 6762 4412
E office@mitchelhanlon.com.au
W www.mitchelhanlon.com.au





Mitchel Hanlon Consulting Pty Ltd

121 Bridge Street
PO Box 1568
TAMWORTH NSW 2340
Phone: (02) 6762 4411 Fax: (02) 6762 4412
office@mitchelhanlon.com.au
www.mitchelhanlon.com.au



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This report has been prepared by

Catherine Lockyer
B.Env.Sc UNE
MEIANZ
Environmental Scientist

Ref.: 13151



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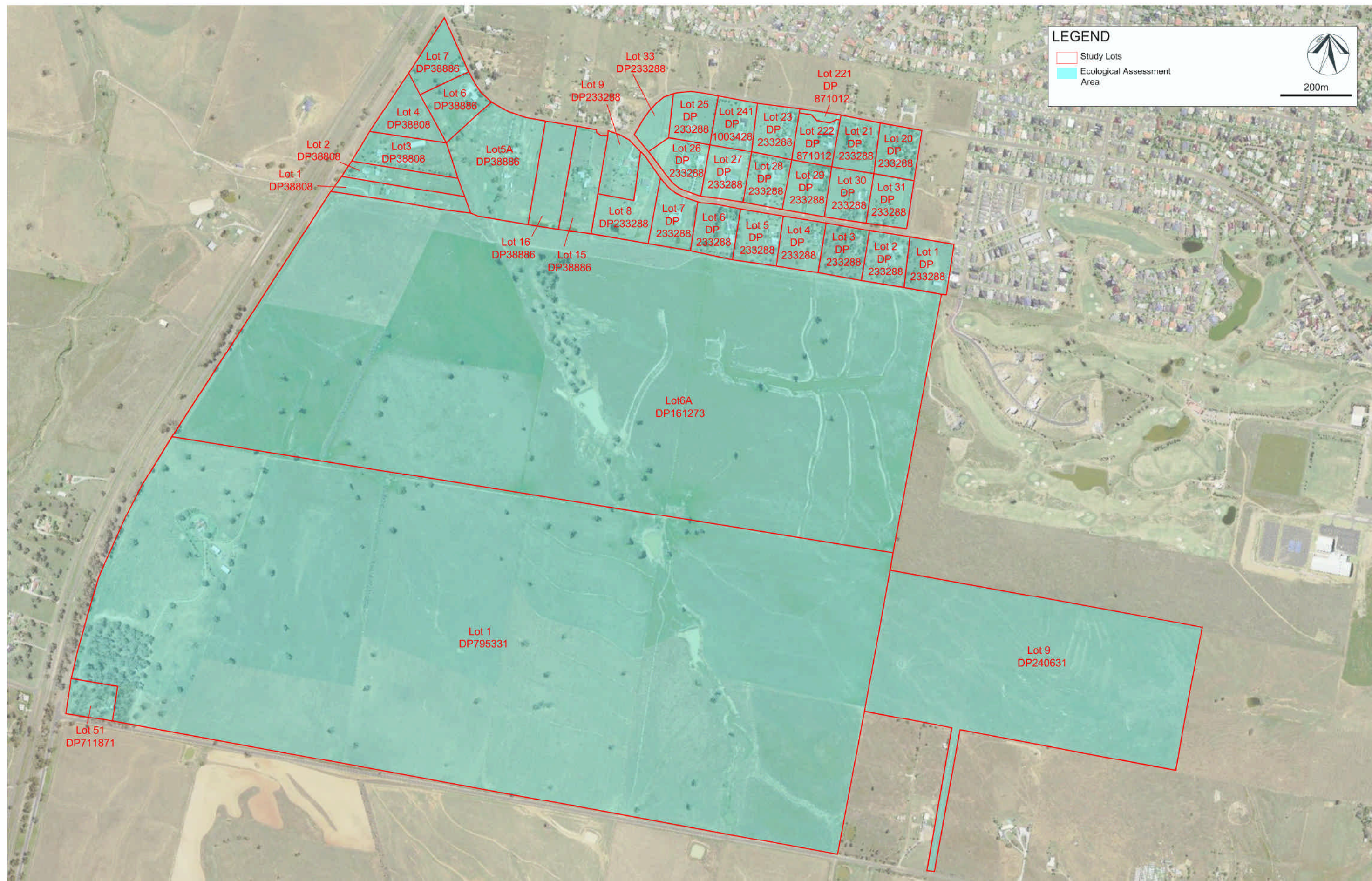


1.0 Introduction

Mitchel Hanlon Consulting have been engaged by Tamworth Regional Council to conduct a Flora and Fauna Assessment of existing *RU4 - Primary Production Small Lots* (Tamworth Regional Council Local Environmental Plan 2010) in the light of a proposed rezoning. Tamworth Regional Council (TRC) is required to submit the planning proposal to the Department of Planning and Infrastructure's [the Department] Gateway Determination process to rezone the lands. A Flora and Fauna Assessment is required to be submitted with the Planning Proposal to aid in the Department's determination. The regional locality of Tamworth is depicted in Figure 1 (p10).

The rezoning of the land is being proposed in relation to Tamworth Regional Council's South Tamworth Rural Lands Master Plan (STRLMP). The STRLMP has identified lands potentially suitable for future commercial and residential land uses. The STRLMP consists of two Stages, with Stage 2 being the subject of this assessment and subsequent report. The land identified as STRLMP Stage 2, and subsequently the Study Area of this assessment is identified in Figure 2 (p11).

The aim of this assessment is to determine the ecological values of the proposal site, in particular those which are protected by the Environment Protection and Biodiversity Conservation Act 1999 and the Threatened Species Conservation Act 1995. The assessment also aims to quantify potential impacts of the proposed rezoning on onsite ecology, and any statutory requirements associated with gaining approval from the relevant authorities.



Tamworth Regional Council Flora & Fauna Assessment

Duri Road, Tamworth NSW



1.1 Project Background

As a part of TRC’s STRLMP project, stage 2 comprises approximately 460ha of land currently zoned as *RU4 – Primary Production*, and are proposed to be rezoned as *R5 – Large Lot Residential* to accommodate further expansion of the growing city.

As detailed previously, the proposal will be required to be reviewed and determined by the Department of Planning and Infrastructure’s Gateway Determination process.

1.2 Legislative Requirements

Acts, regulations and policies established by the Commonwealth of Australia and State Governments of Australia give native flora and fauna legal protection. Primarily, the legislative mechanisms deter against adverse effects that may threaten, disturb or constrain existence of native flora and fauna, in particular, those which are listed as significant. Table 1 summarises state and federal legislation considered in the assessment of the proposed rezoning.

Table 1: Relevant Legislation

ACTS, REGULATIONS AND POLICIES
Federal Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
NSW Threatened Species Conservation Act 1995 (TSC Act)
NSW Native Vegetation Conservation Act 2003 (NVC Act)
Part 5A of the Environmental Planning and Assessment Act 1979 (EP&A Act)
SEPP 44 Koala Habitat Protection (SEPP 44)

The relevant legislation and its application to the subject site is discussed in sections 1.2.1 and 1.2.2 below.



1.2.1 Relevant Acts

The objectives of Acts relevant to the proposal are summarised in the sections below.

1.2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act is the Australian Government's principal piece of environmental legislation. The Act protects Australia's native species and ecological communities determined to be "Matters of National Environmental Significance" (NES). Table 2 details the key objectives of the Act.

Table 2: EPBC Act Objectives

KEY OBJECTIVES

- to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance
- to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources
- to promote the conservation of biodiversity and to provide for the protection and conservation of heritage
- to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples
- to assist in the co-operative implementation of Australia's international environmental responsibilities
- to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity
- to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

The environmental assessment requires that NES listed under the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* be reviewed in light of the proposed activities. Any action that will, or is likely to have a significant impact on species or ecological communities of National Environmental Significance listed in the following



categories e.g., extinct; critically endangered; endangered or vulnerable and extinct in the wild will require approval from the Minister after assessment under the “*Significant Impact Criteria*”. Any Matters of National Environmental Significance relevant to the proposal are identified in Appendix D of this document.

1.2.1.2 Threatened Species Conservation Act 1995

An Independent Scientific Committee has been set up under the TSC Act to determine which species, populations and ecological communities have a status as endangered, vulnerable or extinct. Key threatening processes are also determined. Table 3 lists key objectives of the Act.

Table 3: TSC Act Objectives

KEY OBJECTIVES
to conserve biological diversity and promote ecologically sustainable development
to prevent the extinction and promote the recovery of threatened species, populations and ecological communities
to protect the critical habitat of those threatened species, populations and ecological communities that are endangered
to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities
to ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed
to encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management.

Section 94 of the TSC Act lists seven criteria for consideration when the proposed development potentially affects threatened species, populations and ecological communities.



Table 4: TSC Act Assessment Criteria

CRITERIA
• In the case of a threatened species, whether the action proposed 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.
• In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.
• In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: a) 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 b) 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.
• In relation to the habitat of a threatened species, population or ecological community: a) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and b) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and c) 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.
• Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly).
• Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The TSC Act has been considered in relation to the proposal to ensure that the ecological integrity of the proposal site will not be adversely compromised by the proposed rezoning.



1.2.1.3 Environmental Planning & Assessment Act 1979

In general, the EP&A Act seeks to implement ecological sustainable development via the protection of the environment, including the protection and conservation of native animals and plants. This includes threatened species, populations and ecological communities, and their habitats. The legislation has been considered in relation to the proposal.

In particular, Part 5A of the Act (significant effect on threatened species, populations or ecological communities, or their habitats) has been considered in relation to the proposal. The Key Factors of the Act have been adopted by section 94 of the TSC Act 1995, and currently act as the assessment criteria outlined previously in Table 4 (p15).

1.2.1.4 Native Vegetation Conservation Act 2003

The proposed rezoning could potentially result in impacts on native vegetation. The management of native vegetation is governed by the Native Vegetation Conservation Act 2003 (NVC Act). The legislation has been considered in relation to the proposal to ensure that the ecological integrity of the subject site and surrounding areas will not be adversely compromised.

The aims of the Native Vegetation Act 2003 are:

- a) to provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State, and
- b) to prevent broadscale clearing unless it improves or maintains environmental outcomes, and
- c) to protect native vegetation of high conservation value having regard to its contribution to such matters as water quality, biodiversity, or the prevention of salinity or land degradation, and
- d) to improve the condition of existing native vegetation, particularly where it has high conservation value, and
- e) to encourage the revegetation of land, and the rehabilitation of land, with appropriate native vegetation, in accordance with the principles of ecologically sustainable development.



1.2.2 Relevant State Environmental Planning Policies

The objectives of State Environmental Planning Policies (SEPPs) relevant to the proposal are summarised below.

1.2.2.1 SEPP 44 Koala Habitat Protection

The SEPP No 44 – Koala habitat protection is pursuant to the Parry Area. This SEPP outlines recommendations for conservation and management of koala habitat. The SEPP states that:

This Part applies to land:

- (a) that is land to which this Policy applies, and*
- (b) that is land in relation to which a development application has been made, and*
- (c) that:*
 - (i) has an area of more than 1 hectare, or*
 - (ii) 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 part, of the land.

It is noted that based on the above qualifiers (land area is greater than 1ha), SEPP 44 is pursuant to the subject site. SEPP 44 has been considered in relation to the proposal to ensure that the ecological components of the proposal site relevant to koalas will not be adversely compromised by the proposed rezoning and associated activities. This is discussed further in section 5.4 (p53).



1.3 Site Background

The site is located approximately 5km south-west of the central business district of Tamworth, along Duri Road. The size of the Study Area is approximately 460ha. The site is located within South Tamworth, and is comprised of 36 individual land parcels.

Details of the subject land's zoning, title, locality and site use are provided in the following sections.

1.3.1 Zoning and Title

A land title search was conducted to determine the title and associated details of the subject site. The results are summarised in Table 5 below. The current zoning of each of the 36 land parcels under the Tamworth Regional Council Local Environment Plan (LEP) 2010 is also detailed in the table below.

Table 5: Site Zoning

LOT/DP	ZONING	DESCRIPTION	OWNERSHIP
51/711871	RU4	Primary Production Small Lots	Minister for Disability Services
1/795331			
6A/161273	RU4	Primary Production Small Lots	Mr CA Smith
9/240631	RU4	Primary Production Small Lots	Mr R Freestone
1/38808	R5	Large Lot Residential	Mrs DJ Collier
2/38808	R5	Large Lot Residential	Mr RW Ford and Mrs K Ford
3/38808	R5	Large Lot Residential	Mrs SK Newman
4/38808	R5	Large Lot Residential	Mr HK Williams and Mrs CM Williams
7/38886	R5	Large Lot Residential	Mr IR Little and Mrs ML Little
6/38886	R5	Large Lot Residential	Mr DY McMurray and Mrs LJ McMurray
5A/38886	R5	Large Lot Residential	



LOT/DP	ZONING	DESCRIPTION	OWNERSHIP
16/38886	R5	Large Lot Residential	Lixabi Superannuation Fund Pty Ltd
15/38886	R5	Large Lot Residential	Mr RW Ryan and Ms KM Hayes
9/233288	R5	Large Lot Residential	Mr RJ Riley and Mrs DM Riley
8/233288	R5	Large Lot Residential	Mrs WA Fulwood and Mr NA Fulwood
7/233288	R5	Large Lot Residential	Mr M Carthage
6/233288	R5	Large Lot Residential	Mr FJ Hook and Mrs CL Cook
5/233288	R5	Large Lot Residential	Mr MJ Robb
4/233288	R5	Large Lot Residential	Mr BJ Black and Mrs JE Black
3/233288	R5	Large Lot Residential	Mr JR Jones and Mrs FE Jones
2/233288	R5	Large Lot Residential	Mrs S Urquhart and Mr GJ Urquhart
1/233288	R5	Large Lot Residential	Mrs KR Murphy
33/233288	RE1	Public Recreation	Tamworth Regional Council
221/871012	R5	Large Lot Residential	Tamworth Regional Council
222/871012	R5	Large Lot Residential	Mr DJ Nixon and Mrs SL Nixon



LOT/DP	ZONING	DESCRIPTION	OWNERSHIP
20/233288	R5	Large Lot Residential	Mrs BM Rock and Ms JL Black and Mr CM Rock
21/233288	R5	Large Lot Residential	Mr D Locklee
23/233288	R5	Large Lot Residential	Mr IB Quick and Mrs DL Quick
25/233288	R5	Large Lot Residential	Mr AC Abra and Mrs GD Abra
26/233288	R5	Large Lot Residential	Mr RJ Laing and Mrs JSJ Laing
27/233288	R5	Large Lot Residential	Mr ML Haplin and Mrs KL Haplin
28/233288	R5	Large Lot Residential	Mrs SJ Goodwin and Mrs L Goodwin
29/233288	R5	Large Lot Residential	Mr JA Drew and Mrs KJ Drew
30/233288	R5	Large Lot Residential	NSW Trustee and Guardian (Armidale Branch)
31/233288	R5	Large Lot Residential	Mr RL Fitzsimmons
241/1003428	R5	Large Lot Residential	Mrs AM Gray

The land title search report is presented in Appendix A.



2.0 Site Description

2.1 Locality & Current Site Use

The site is located within the suburbs of Warral and Hillvue, south-west of the Tamworth City CBD. The study site is comprised of 36 individual land parcels. Table 6 (p21) outlines the site details. All 36 lots fall within the local government area of Tamworth Regional, parish of Calala, county of Parry. Appendix A includes a copy of the Title Search for the lot and zoning information.

Table 6: Site Identification

LOT/DP	ASPECT	DESCRIPTION
51/711871	Site Address	Corner of Burgmanns Lane & Duri Road, Tamworth NSW 2340
	Current use	Vacant Land – Disability Residence Construction Scheduled
1/795331 6A/161273	Site Address	Longridge Farms Duri Road & 21 Burgmanns Lane HILLVUE NSW 2340
	Current use	Agricultural/Rural Residential
9/240631	Site Address	Burgmanns Lane HILLVUE NSW 2340
	Current use	Light Agricultural
1/38808	Site Address	308-310 Duri Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
2/38808	Site Address	304-306 Duri Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
3/38808 4/38808	Site Address	276-302 Duri Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
7/38886	Site Address	2-16 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm



LOT/DP	ASPECT	DESCRIPTION
6/38886	Site Address	18-26 Bylong Road HILLVUE NSW 2340
	Current use	Residential
5A/38886	Site Address	28-42 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
16/38886	Site Address	44-50 Bylong Road HILLVUE NSW 2340
	Current use	Vacant Land
15/38886	Site Address	52-58 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
9/233288	Site Address	60-68 Bylong Road HILLVUE NSW 2340
	Current use	Residential
8/233288	Site Address	70-74 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
7/233288	Site Address	76-84 Bylong Road HILLVUE NSW 2340
	Current use	Residential
6/233288	Site Address	86-94 Bylong Road HILLVUE NSW 2340
	Current use	Residential
5/233288	Site Address	96-104 Bylong Road HILLVUE NSW 2340
	Current use	Residential
4/233288	Site Address	106-114 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
3/233288	Site Address	116-124 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm



LOT/DP	ASPECT	DESCRIPTION
2/233288	Site Address	126-134 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
1/233288	Site Address	136-144 Bylong Road HILLVUE NSW 2340
	Current use	Vacant/storage
33/233288	Site Address	59-63 Bylong Road HILLVUE NSW 2340
	Current use	Vacant Land
221/871012	Site Address	10 Warwick Road HILLVUE NSW 2340
	Current use	Landscaped Roadside
222/871012	Site Address	10 Warwick Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
20/233288	Site Address	14 Warwick Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
21/233288	Site Address	12 Warwick Road HILLVUE NSW 2340
	Current use	Residential
23/233288	Site Address	8 Warwick Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
25/233288	Site Address	4 Warwick Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
26/233288	Site Address	65-83 Bylong Road HILLVUE NSW 2340
	Current use	Residential
27/233288	Site Address	85-89 Bylong Road HILLVUE NSW 2340
	Current use	Residential



LOT/DP	ASPECT	DESCRIPTION
28/233288	Site Address	91-95 Bylong Road HILLVUE NSW 2340
	Current use	Residential
29/233288	Site Address	97-101 Bylong Road HILLVUE NSW 2340
	Current use	Residential
30/233288	Site Address	103-107 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
31/233288	Site Address	109-113 Bylong Road HILLVUE NSW 2340
	Current use	Residential/hobby farm
241/1003428	Site Address	6 Warwick Road HILLVUE NSW 2340
	Current use	Residential/hobby farm

Title search information sourced from the NSW Department of Lands [Refer to Appendix A] and Tamworth Regional Council.



2.2 Topography

The subject site is identified as falling within the Cunningham Slopes of the New England Moreton Uplands Province. The area consists of soil on highly weathered bedrock (20-50%). The topography range is approximately 400-420m ASL AHD (CSIRO 2006).

2.3 Geology and Soil

The topsoil within the local area is generally described as having a texture of 52% sand, 21% clay and 27% silt. The sub soil contrastingly is described as being comprised of 44% sand, 42% clay and 13% silt. Both the subsoil and topsoil are naturally slightly acidic with a pH of approximately 6.2 and 5.6 respectively (CSIRO, 2006). The soil within the area is generally described as being a Rudosol (NSW OEH, 2014c). A site specific soil assessment was not undertaken as a part of this study.

The soil has a geological age of Silurian to Triassic with the stratigraphy of the site based upon late Silurian to Middle Triassic shelf and trough sediments. The soil also has origins of felsic to mafic volcanics and continental sediments, with major breaks in the middle Devonian, middle to late Carboniferous, middle to late Permian and early Triassic. There is also evidence of Tertiary volcanic origin (CSIRO, 2006).

2.4 Bioregion

The subject site exists towards the southern side of the bioregion of the Nandewar. Hillvue/Warral belongs to the subregion of Peel, comprised of low peaked hills with north-westerly alignment. The geology of the region is strongly folded and faulted with marked north-west alignment and areas of sub-horizontal carboniferous shales and sandstones in the north. Vegetation characteristic of the Peel subregion includes White box grassy woodlands, with Yellow Box and Blakely's Red Gum on lower slopes. Rough-barked Apple and Yellow Box are common on flats, with River Oak and some River Red Gum along major rivers. Patches of Red Stringy-bark and Red Ironbark are also common on steeper slopes in the east, with Silver-leaved iron-bark commonly occurring on basalt caps. Stony areas in the west and north are often characterised by White Cypress Pine and Kurrajong (NSW OEH 2014d).



2.5 Climate

The Nandewar bioregion is considered mostly to be fairly warm and dry, although average annual temperatures and rainfall vary markedly across the bioregion in relation to elevation. Average annual rainfall also varies distinctly across the bioregion. It is characterised by frequent rains of high intensity and high run-offs caused by steep slopes and shallow soils that feature prominently in the bioregion. The Nandewar bioregion is subject to summer rainfall, with summer rainfall described as being slightly dominant (BRG).

Tamworth has an annual average temperature range of 10.2 °C – 24.3°C with mean annual rainfall 673.2mm (Australian Government 2013).



3.0 Flora and Fauna Assessment Methodology

3.1 Data Review

A preliminary review of site relevant data was undertaken prior to the field survey to indicate species that could potentially occur within the subject site, or in close proximity.

3.1.1 NSW OEH Wildlife Atlas (TSC)

Electronic records reviewed originated from the NSW Office of Environment and Heritage online Wildlife Search Atlas for plant and animal species. The Atlas provides data of flora and fauna species known to occur or potentially occur within the area. The search parameters were limited to a 10 x 10-kilometre grid, extending from the approximate centre of the site.

It should be noted that the online Atlas has a number of biases. It is expected that sightings have a tendency to follow patterns of human movement, and that contributors often focus their efforts on recording threatened and endangered species, leading to more recordings for these species than common species.

The Threatened Species Act 1995 was reviewed, particularly listed Schedules 1, 1A, 2 and 3 to determine the existence of:

- Schedule 1 - Endangered species, populations and ecological communities;
- Schedule 1A- Critically endangered species and ecological communities;
- Schedule 2 - Vulnerable species and ecological communities; and
- Schedule 3 - Key threatening processes.



3.1.2 Protected Matters Search (EPBC)

A data base search of the Department of Sustainability, Environment, Water, Population and Communities (DOTE) online “*Protected Matters Search Tool*” defined “*Matters of National Environmental Significance*” (NES) relevant to the subject site. The NES database holds information from declared World Heritage properties, Ramsar wetlands, threatened, migratory, marine species, threatened ecological communities and protected areas.

The online tool assists project/development proponents to:

- “determine whether their development is likely to affect a matter of national environmental significance”; and
- “provide referral and assessment for approval under the EPBC Act 1999”.

Inclusively, the EPBC Act provides for Migratory Birds which are covered under;

- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
- China-Australia Migratory Bird Agreement (CAMBA)
- Japan-Australia Migratory Bird Agreement (JAMBA)

3.2 Taxonomy

The taxonomy sources utilised for the identification of unfamiliar flora and fauna species in this report are identified in Table 7 (below).

Table 7: Taxonomic Authorities utilised in Species Identification

DIVISION	AUTHORITY
CLASS AVES	The Field Guide to the Birds of Australia (Pizzey & Knight, 2007)
KINGDOM PLANTAE	PlantNET (The Royal Botanic Gardens and Domain Trust, 2014)
CLASS REPTILLIA	NSW Online Atlas of Wildlife (OEH, 2013b)

All vertebrate names and descriptions have followed the Census of Australian Vertebrate Species (CAVS). All reported plant names and



descriptions follow PlantNET (The Royal Botanic Gardens and Domain Trust).

3.3 Field Survey

Catherine Lockyer of Mitchel Hanlon Consulting conducted a site flora and fauna survey between the 6th February 2014 and the 11th March 2014. The survey included both general and targeted search components for fauna and flora species / communities potentially occurring in the area. Survey weather conditions during the assessment period were generally clear and hot, with minimal cloud cover. Photos taken on the day are presented in Appendix B.

3.3.1 Preliminary Habitat Stratification

Initial habitat classification was undertaken within the site boundary to allow for stratification. The results of habitat stratification determined the nature of the search effort required for individual species within each determined unit of stratification. As a result of habitat stratification, larger amounts of time were allocated to searching areas that were deemed to have higher vegetative species richness and structural integrity that would be more likely to harbor potentially threatened fauna and flora species. Table 8 (below) details ecological criteria used to determine effort expenditure for each unit of stratification.

Table 8: Ecological Search Effort Criteria

RANKING	RANKING CRITERIA
Low	Low number of native species; high existence of exotic species; extensively modified or absent grass, shrub, over story vegetation layer/(s)
Moderate	Moderate number of native species; medium existence of exotic species; moderately modified or partially absent grass, shrub, over story vegetation layer/(s).
High	High number of native species; low to nil existence of exotic species; low to nil modification of grass, shrub, over story vegetation layer/(s).

3.3.2 Assessment of Flora Species

Initial generalised habitat classification was undertaken to allow for the most appropriate search method/s for each area to be identified. Each individual vegetation type identified was representative of an individual stratification unit, as detailed in section 5 of the *Threatened Biodiversity*



Survey and Assessment: Guidelines for Developments and Activities (OEH, 2004)..

All areas were assessed through a systematic walkthrough, travelling from one side to another across the entire area. The various identified habitat areas (stratification units) are presented in Figure 3 (p33) of this report. Details of each habitat area are summarised in Table 9 below. In addition to this, the minimum search effort recommended and the subsequent action taken are provided.

Table 9: Study Site Habitat Areas / Stratification Units

HABITAT	HABITAT DESCRIPTION	APPROX AREA	MINIMUM SEARCH EFFORT REQUIRED	AS CARRIED OUT
1	Exotic Garden/highly modified	28 ha	2 X 400m ² Quadrant 2 X 30 minute random meander	25 X 15 minute random meander
2	Exotic Pasture/ Grasslands	340 ha	5 X 400m ² Quadrant & 5 X 30 minute random meander	4 X 400m ² Quadrant* 7 X 30 minute random meander
3	Native Eucalypt Plantings	7 ha	2 X 400m ² Quadrant 2 X 30 minute random meander	4 X 30 minute random meander**
4	Degraded White Box Woodland	189 ha	3 X 400m ² Quadrant 3 X 30 minute random meander	4 X 400m ² Quadrant 4 X 30 minute random meander
5	White Box – Orange Gum Grassy Woodlands	35 ha	2 X 400m ² Quadrant 2 X 30 minute random meander	4 X 400m ² Quadrant 4 X 30 minute random meander

*Less than minimum search effort due to exotic agricultural nature and homogeneity.

**Quadrants deemed not appropriate due to physical nature of habitat.

Photographs of each quadrant with relevant GPS coordinates and bearings can be found in Appendix C. Approximate locations of the quadrants are depicted in Figure 3 (p33). Quadrants were undertaken using 20m X 20m dimensions in all areas.

A combination of general and targeted search methods were utilised during the onsite flora assessment. Brief observations were made on external roadside areas in order to gain a basic understanding of the ecological values of vegetation in close proximity to the subject site.



3.3.2.1 Native Vegetation Assessment

The Native Vegetation Conservation Act 1997 provides a framework for the management of native vegetation in NSW. The Act defines native vegetation as:

(1) In this Act, "native vegetation" means any of the following types of indigenous vegetation:

- (a) trees,
- (b) understorey plants,
- (c) groundcover,
- (d) plants occurring in a wetland.

(2) For the purposes of this definition, "groundcover" means any type of herbaceous vegetation, but it is only to be regarded as native vegetation for the purposes of this Act if it occurs in an area where not less than 50% of the herbaceous vegetation covering the area comprises indigenous species. In determining that percentage, not less than 10% of the area concerned must be covered with herbaceous vegetation (whether dead or alive).

Note: Subsection (2) takes into account seasonal impacts (such as drought) in determining the amount and type of groundcover occurring in an area.

(3) For the purposes of this Act, "native vegetation" does not include any mangroves, seagrasses or any other type of marine vegetation within the meaning of the *Fisheries Management Act 1994*.

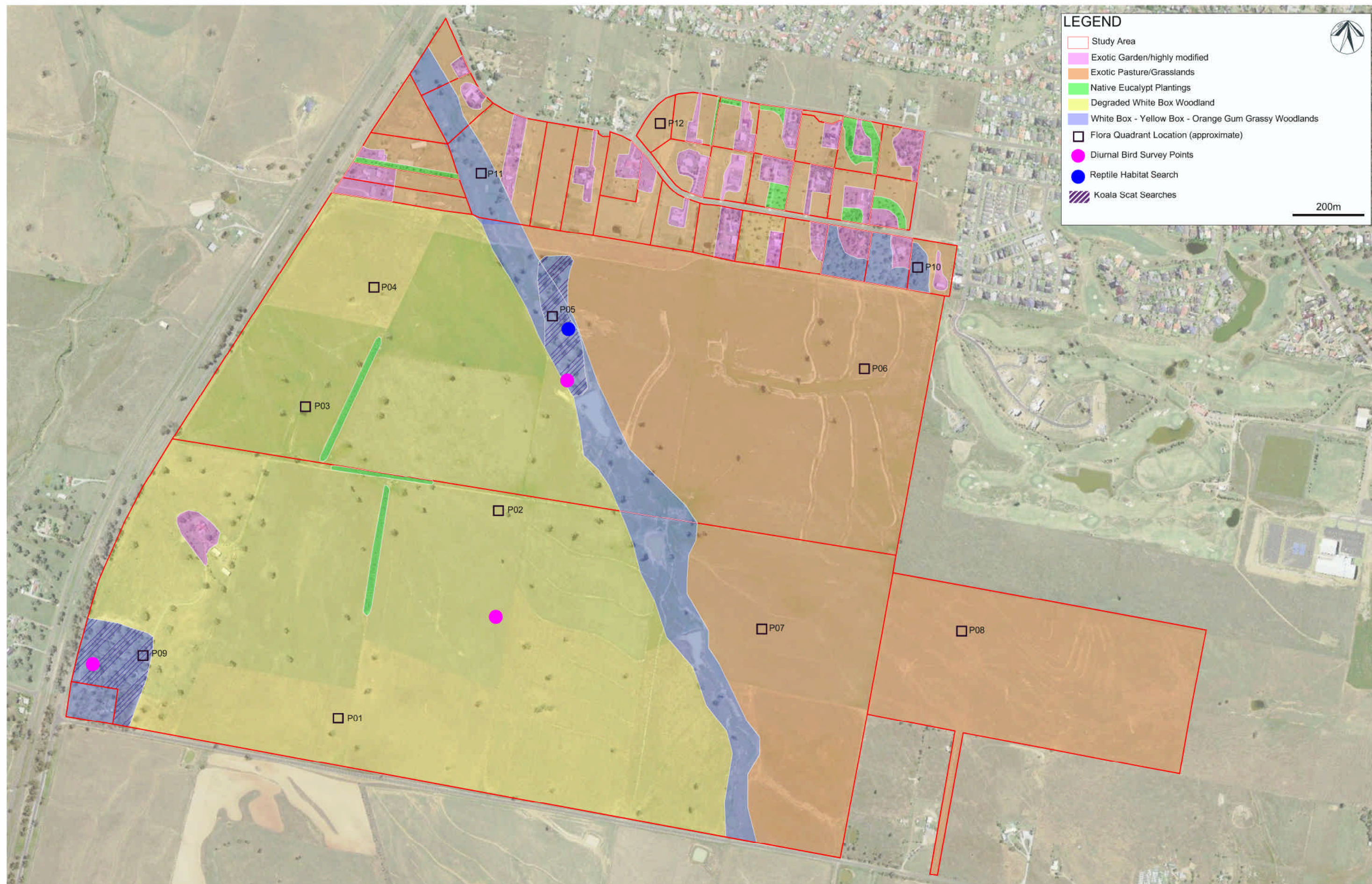
For the purpose of this assessment, native overstorey and understorey species have been identified individually to determine whether an area is native. Groundcover has been assessed utilising a transect method whereby a 50m transect is used and the nature of the species encountered (exotic or native) is identified at 1m intervals. A total percentage of native species is then calculated to determine whether the groundcover will be classified as native.

3.3.3 Threatened Species Targeted Survey Efforts

The listed threatened flora species identified in the EPBC and TSC database searches were specifically targeted during the assessment. Research undertaken prior to the site visit was utilised to identify areas which were likely to act as potential habitat for the identified species. Additionally, information on aspects of each species lifecycle with reference to the current season was considered and utilised during the species search.



Any areas which were deemed to be potential habitat for threatened flora species were searched rigorously for species presence. An additional half-hour was expended in areas that were deemed to be potential habitat for one or more EPBC or TSC listed threatened flora species.



Tamworth Regional Council Flora & Fauna Assessment

Duri Road, Tamworth NSW

FIGURE 3
Site Vegetation Stratification
and Sampling Plan



3.3.4 Fauna Assessment

Fauna survey efforts were reliant on vegetative composition and physical landscape characteristics. Although fauna species can live in highly disturbed habitats, the major effort-hours expended are generally in moderate and high value habitats. Potentially, this increases detection of threatened fauna species that may occur in the area. Table 10 identifies the fauna detection methods employed during the site assessment.

Table 10: Fauna Detection Methods

ACTIVITIES

- Active searching for skull and other skeletal remains
- Active searching for faecal pellets
- Active searching for traces, i.e., trunk scars and nectar bleeds
- Observations of diggings and scratching
- Active searching for dreys, daytime rest spots
- Active searching for tracks
- Active listening for birdcalls

3.3.4.1 Incidental Observations

Incidental observations of flora & fauna species were recorded while undertaking targeted and systematic surveys throughout the site. External areas located within the adjacent road corridor also recorded incidental observations in addition to targeted survey efforts.

3.3.4.2 Targeted Survey Efforts

The listed threatened fauna species identified in the EPBC and TSC database searches deemed as having the potential to occur onsite (as per the presence likelihood assessment - Appendix E) were specifically targeted during the assessment. Research undertaken prior to the site visit was utilised to identify areas which were likely to act as potential habitat for the identified species. Additionally, information on behaviour, diet and aspects of each species lifecycle with reference to the current season was considered and utilised during the species search.

Any areas which were deemed to be potential habitat for threatened fauna species were rigorously searched for species and trace presence.



Additionally, while it was deemed unlikely that *Phascolarctos cinereus* (Koala) would occur onsite, two targeted, half-hour habitat searches for scats were undertaken within areas of habitat 5. No scats were located.

A total of 12 hours of stag watching and call identification were undertaken for threatened avian species and threatened Migratory avian species.



4.0 Site Flora Results

Results of the flora and fauna data review and onsite assessment are outlined in sections 4.1 to 4.5 below.

4.1 Data Review

A summary of species and communities returned in the EPBC Protected Matters and TSC Protected Matters searches can be found in Appendix E with the associated presence likelihood determination. The full reports generated for both the state and federal search can be found in Appendix D.

4.2 Floristic Overview

Seasonal conditions tempered the floristic potential of the site excluding growth cycles and defoliation from both native and exotic animals. The absence of key identification features, i.e., flowers, buds and fruit restricted the naming and subsequent listing of some species.

In general, the habitats observed demonstrated very little biodiversity. Many areas had significantly degraded shrub and ground layers with the absence of a canopy layer as a result of historic grazing and cropping.

4.3 Identified Habitats

During the site assessment, five (5) distinctive habitat types were identified. The identified habitat types are detailed within the sections below.

4.3.1 Habitat 1- Managed Exotic Gardens

A number of sites within the study area contained managed Exotic gardens and associated infrastructure (houses, sheds etc). These areas were predominantly exotic, with some native species also being present (Such as *Eucalyptus albens*, *E. populnea* and *E. sideroxylon*). Where practical, native overstorey species should be retained. While the few native species were present within these areas, individual native mature trees may provide potential roosting habitat and occasional foraging resources.



4.3.1.1 Condition and Exotic Species Presence

The community was comprised of predominantly exotic species. No State or Federally listed noxious weed species were observed during the site assessment within these areas. While not native, vegetation appeared to be in average condition, with the effects of drought evident.

4.3.1.2 Conservation Status

The community is deemed to be of very little conservation significance, with the exception of the mature eucalypts. The community does not comprise a listed threatened community under the EPBC or TSC Acts. While floristically the vegetation does not have large conservation value, values as fauna habitat and foraging vegetation will be assessed further in section 6.2.1 (p56).

4.3.2 Exotic Pasture / Grasslands

An area of approximately 340ha with fragments located throughout a number of land parcels comprising the study site was found to be occupied by degraded exotic pasture/grasslands. Individual eucalypts were sparsely present in some areas (<1 tree per hectare). A mid-storey was not present in any location. A small number of native species were extremely persistent, with a large number of weed species being interspersed throughout. A number of exotic crop species were observed throughout the community, as a result of past cropping. Species found within the Community are detailed in Table 11 below.

Table 11: Habitat 2 Observed Flora

STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
Tree Layer	2-22m	<1%	<i>Eucalyptus albens</i>	White Box
			<i>Eucalyptus sideroxylon</i>	Mugga Ironbark
Ground Layer	To 0.9m	30%	<i>Bothriochloa macra</i>	Red Grass
			<i>Bothriochloa decipiens</i>	Redleg Grass
			<i>Cynodon dactylon</i>	Common Couch
			<i>Austrostipa nitida</i>	Spear Grass
			<i>Chloris truncata</i>	Windmill Grass



STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
			<i>*Bromus unioloides</i>	Prairie Grass
			<i>*Panicum spp.</i>	Exotic Panic
			<i>Chloris ventricosa</i>	Tall Chloris
			<i>*Verbena bonariensis</i>	Purple Top
			<i>*Centaurea solstitialis</i>	St Barnaby's Thistle
			<i>Enneapogon nigricans</i>	Black Heads
			<i>Eragrostis leptostachya</i>	Paddock Lovegrass
			<i>*Festuca pratensis</i>	Meadow fescue
			<i>Wahlenbergia luteola</i>	Native bluebell
			<i>*Brassica napus</i>	Canola
			<i>*Medicago sativa</i>	Lucerne
			<i>*Acetosella vulgaris</i>	Sheep Sorrel
			<i>Digitaria hystrichoides</i>	Umbrella Grass
			<i>Geranium solanderii</i>	Native geranium
			<i>*Hordeum leporinum</i>	Barley Grass
			<i>*Conyza albida</i>	Fleabane
			<i>*Ammi majus</i>	Bishop's-weed
			<i>*Hypochaeris radicata</i>	Flatweed

* Exotic Species



4.3.2.1 Condition and Exotic Species Presence

Within the community, exotic species were extensively present. No State or Federally listed noxious weed species were observed during the site assessment within this area. Overall, biodiversity within the community was very low, with a relatively small number of resilient native groundcover species persevering.

4.3.2.2 Conservation Status

The community is deemed to be of very little conservation significance. The community does not comprise a listed threatened community under the EPBC of TSC Act. While floristically the vegetation does not have large conservation value, values as fauna habitat and foraging vegetation will be assessed further in section 6.2.1 (p56).

4.3.3 Habitat 3- Native Eucalypt Plantings

Throughout the subject site are a number of native eucalypt (predominantly) plantings and sparse residual native remnant overstorey which occur predominantly around residential dwellings and commercial buildings. These plantings have been categorised as a separate community to ensure that any habitat value is assessed. Groundcover in these areas was assessed to determine whether it was native. Some species found within the native tree plantings are detailed in Table 12 below.

Table 12: Habitat 3 Observed Flora

STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
Tree Layer	2-22m	30%	<i>Eucalyptus albens</i>	White Box
			<i>Eucalyptus sideroxylon</i>	Mugga Ironbark
			<i>Eucalyptus Melliodora</i>	Yellow Box
			<i>Eucalyptus Populnea</i>	Bimble Box
			<i>Acacia spp</i>	Wattle spp.
			<i>Grevillea spp</i>	<i>Grevillea spp</i>
			<i>Callitris glaucophylla</i>	White Cypress Pine



STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
Ground Layer	To 0.9m	90%	<i>Bothriochloa macra</i>	Red Grass
			<i>Bothriochloa decipiens</i>	Redleg Grass
			<i>Cynodon dactylon</i>	Common Couch
			<i>Austrostipa nitida</i>	Spear Grass
			<i>Chloris truncata</i>	Windmill Grass
			* <i>Panicum spp.</i>	Exotic Panic
			* <i>Verbena bonariensis</i>	Purple Top
			* <i>Centaurea solstitialis</i>	St Barnaby's Thistle
			<i>Enneapogon nigricans</i>	Niggerheads
			<i>Eragrostis leptostachya</i>	Paddock Lovegrass
			* <i>Festuca pratensis</i>	Meadow fescue
			<i>Wahlenbergia luteola</i>	Native bluebell
			* <i>Brassica napus</i>	Canola
			* <i>Medicago sativa</i>	Lucerne
			* <i>Acetosella vulgaris</i>	Sheep Sorrel
			<i>Geranium solanderii</i>	Native geranium
			* <i>Hordeum leporinum</i>	Barley Grass

* Exotic Species

4.3.3.1 Condition and Exotic Species Presence

No State or Federally listed noxious weed species were observed during the site assessment within this area. The tree plantings lacked a shrub layer. Groundcover was extensively modified and subsequently identified as exotic.



4.3.3.2 Conservation Status

The majority of the community is deemed to be of very little conservation significance, for its floristic values. While the majority of canopy species in these areas are Australian natives, many are not locally native. The community does not comprise a listed threatened community under the EPBC or TSC Act. While floristically the vegetation does not have large conservation value, values as fauna habitat and foraging vegetation will be assessed further in section 6.2.1 (p56).

4.3.4 Habitat 4- Degraded White Box Woodland

An area of approximately 189ha, confined to the south-western half of the large agricultural property, was found to be comprised of degraded White Box Open Woodlands. This Community is comprised only of a sparse native canopy layer and highly degraded exotic ground layer. No shrub layer was present within this area. Species found within the Community are detailed in Table 13 below.

Table 13: Habitat 4 Observed Flora

STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
Tree Layer	2-22m	<1%	<i>Eucalyptus albens</i>	White Box
			<i>Eucalyptus melliodora</i>	Yellow Box
Ground Layer	To 0.9m	40%	<i>Bothriochloa macra</i>	Red Grass
			<i>Bothriochloa decipiens</i>	Redleg Grass
			<i>Cynodon dactylon</i>	Common Couch
			<i>Austrostipa nitida</i>	Spear Grass
			<i>Chloris truncata</i>	Windmill Grass
			* <i>Bromus unioloides</i>	Prairie Grass
			* <i>Panicum spp.</i>	Exotic Panic
			<i>Chloris ventricosa</i>	Tall Chloris
			* <i>Verbena bonariensis</i>	Purple Top



STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
			<i>*Centaurea solstitialis</i>	St Barnaby's Thistle
			<i>Enneapogon nigricans</i>	Niggerheads
			<i>Eragrostis leptostachya</i>	Paddock Lovegrass
			<i>*Festuca pratensis</i>	Meadow fescue
			<i>Wahlenbergia luteola</i>	Native bluebell
			<i>*Brassica napus</i>	Canola
			<i>*Medicago sativa</i>	Lucerne
			<i>*Acetosella vulgaris</i>	Sheep Sorrel
			<i>Digitaria hystrixoides</i>	Umbrella Grass
			<i>Geranium solanderii</i>	Native geranium
			<i>*Hordeum leporinum</i>	Barley Grass
			<i>*Conyza albida</i>	Fleabane
			<i>*Ammi majus</i>	Bishop's-weed
			<i>*Hypochaeris radicata</i>	Flatweed

* Exotic Species

4.3.4.1 Condition and Exotic Species Presence

The community was comprised of predominantly exotic species. No State or Federally listed noxious weed species were observed during the site assessment within this area. The community was in poor condition with relatively low biodiversity and a lack of structural complexity.

4.3.4.2 Conservation Status

The community is deemed to be of minimal conservation significance. The community does not comprise a listed threatened community under the EPBC of TSC Act. While floristically the vegetation does not have



large conservation value, values as fauna habitat and foraging vegetation will be assessed further in section 6.2.1 (p56).

4.3.5 Habitat 5- White Box – Yellow Box - Orange Gum Grassy Woodlands

Three (3) separate patches, comprising a total area of approximately 35ha were identified as White Box – Yellow Box – Orange Gum Grassy Woodlands. The community was characterised by a native eucalypt canopy layer, absent shrub layer and diverse native ground cover. Species found within the Community are detailed in Table 14 below.

Table 14: Habitat 5 Observed Flora

STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
Tree Layer	2-22m	<1%	<i>Eucalyptus albens</i>	White Box
			<i>Eucalyptus prava</i>	Orange Gum
			<i>Eucalyptus melliodora</i>	Yellow Box
Ground Layer	To 0.9m	85%	<i>Bothriochloa macra</i>	Red Grass
			<i>Bothriochloa decipiens</i>	Redleg Grass
			<i>Themeda australis</i>	Kangaroo Grass
			<i>Digitaria divaricatissima</i>	Umbrella Grass
			<i>Austrodanthonia laevis</i>	Wallaby Grass
			<i>Cynodon dactylon</i>	Common Couch
			<i>Austrostipa nitida</i>	Spear Grass
			<i>Brachyscome scapigera</i>	Tufted daisy
			<i>Poa sieberiana</i>	Snow Grass
			<i>Acaena agnifolia</i>	Sheep's Burr



STRATUM	HEIGHT	COVER	SPECIES OBSERVED	COMMON NAME
			<i>Chloris truncata</i>	Windmill Grass
			* <i>Bromus unioloides</i>	Prairie Grass
			<i>Chloris ventricosa</i>	Tall Chloris
			* <i>Centaurea solstitialis</i>	St Barnaby's Thistle
			<i>Enneapogon nigricans</i>	Niggerheads
			<i>Eragrostis leptostachya</i>	Paddock Lovegrass
			* <i>Festuca pratensis</i>	Meadow fescue
			<i>Wahlenbergia luteola</i>	Native bluebell
			* <i>Acetosella vulgaris</i>	Sheep Sorrel
			<i>Digitaria hystrixoides</i>	Umbrella Grass
			<i>Geranium solanderii</i>	Native geranium
			* <i>Hordeum leporinum</i>	Barley Grass
			* <i>Conyza albida</i>	Fleabane
			* <i>Ammi majus</i>	Bishop's-weed
			* <i>Hypochaeris radicata</i>	Flatweed

* Exotic Species

4.3.5.1 Condition and Exotic Species Presence

The community was comprised of predominantly of native species, with a small number of exotic species interspersed. Groundcover species were of high diversity and a shrub layer was absent. Trees were mature, however only trees located within the central riparian zone were identified as bearing hollows.



4.3.5.2 Conservation Status

The patches of this community have been identified as the state and federally listed endangered ecological community White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland. The community is subsequently deemed to be of high conservation significance. Of particular significance are the central riparian patch and the south-western patch due to the potential connectivity they provide with other riparian vegetation and roadside vegetation. The riparian habitat located amongst an expanse of drier grasslands provides a niche environment for many species that are not adapted to persevere in adjacent, drier areas. In addition to this, values as fauna habitat and foraging vegetation will be assessed further in 6.2.1 (p56). It is noted that it is unlikely that this ephemeral riparian area will ever be developed due to the environmental limitations it presents to prospective development.



4.3.6 Flora Species & Communities of Significance

Based upon the results of the flora survey, it has been determined whether or not the land and existing ecological communities of the study area form a threatened community or could potentially act as habitat for threatened flora species. The results of the habitat likelihood determination and resulting proposal impact determination are presented in Appendix E. A total of three (3) flora species have been determined to have the potential to occur onsite (although not observed). The three (3) species have been highlighted in grey in Appendix E and are replicated in the following table:

Table 15: Flora Species and Communities of Significance Potentially Present

SPECIES/ COMMUNITY	STATUS	HABITAT DESCRIPTION
<i>Dicanthium setosum</i> - Bluegrass	EPBC Vulnerable TSC Vulnerable	Associated with heavy basaltic black soils and stony red-brown hard-setting loam clay with clay subsoil. Found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture. ^{NOTE}
<i>Picris evae</i> - Hawkweed	EPBC Vulnerable TSC Vulnerable	Occurs in <i>Eucalyptus</i> open woodland with a grassy understorey composed of <i>Dichanthium</i> spp. Upper stratum species include <i>Eucalyptus melliodora</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>E. albens</i> , <i>Angophora subvelutina</i> , <i>Allocasuarina torulosa</i> , and <i>Casuarina cunninghamiana</i> . Collections have been made along roadsides and in cultivated areas, such as paddocks, on black, dark grey or red-brown soils, reddish clay-loam or medium clay soils ^{NOTE}
<i>Tylophora linearis</i>	EPBC Endangered TSC Vulnerable	Grows in dry scrub, open forest and woodlands associated with <i>Melaleucauncinata</i> , <i>Eucalyptus fibrosa</i> , <i>E. sideroxylon</i> , <i>E. albens</i> , <i>Callitris endlicheri</i> , <i>C. glaucophylla</i> , <i>Allocasuarina luemannii</i> , <i>Acacia hakeoides</i> , <i>A. lineata</i> , <i>Myoporum</i> spp., and <i>Casuarina</i> spp. ^{NOTE}

^{NOTE} Department of the Environment Threatened Species Listings.

As a result of these three (3) species having the potential to occur onsite, the significance of any impacts on the potential habitat for these species is required to be assessed further. The Assessment of Significance is for



each species has been undertaken and included as Appendix F of this document.

The database search identified a number of ecological communities of significance, as identified in Appendix D of this report. The site assessment resulted in three patches of White Box – Yellow Box - Blakely's Red Gum being identified onsite. The required Assessment of Significance for the community has been undertaken and included as Appendix F of this document.



4.4 Invasive Flora Species

A number of invasive flora species were identified during the site assessment; however none were identified as being noxious weeds.

4.5 Native Vegetation Assessment

Groundcover assessments were undertaken in all areas to determine if any “native groundcover” was present onsite as determined by the Native Vegetation Act 2003 (NVA) (<50% of species native).

All areas identified as White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland have been identified as having a canopy of native vegetation, as well as native groundcover (Habitat area 5). While all other assessed groundcover was identified as being exotic, some areas were identified as being characterised by a native canopy layer. A plan depicting the extent of native and exotic vegetation is depicted in Figure 4 (p49).



5.0 Application of Relevant Legislation

5.1 Threatened Species Conservation Act 1995

No flora species listed as threatened under the NSW Threatened Species Conservation Act 2003 (TSC) were identified during the site assessment. It was however determined that potential habitat occurred onsite for three (3) TSC listed flora species:

- *Dicanthium setosum* – Bluegrass (Vulnerable)
- *Picris evae* – Hawkweed (Vulnerable)
- *Tylophora linearis* (Vulnerable)

Additionally, Areas of the TSC Endangered Ecological Community White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland were identified onsite.

As a result of potential habitat occurring onsite, an assessment of significance of the potential impacts resulting from the proposed rezoning has been undertaken for the three species and endangered Ecological Community. The Assessment of Significance for the species and community has been included in Appendix F.

It was determined that, a significant impact was not likely.

5.2 Environment Protection and Biodiversity Conservation Act 1999

No flora species listed as threatened under the NSW Environment Protection & Biodiversity Conservation Act 1999 (EPBC) were identified during the site assessment. It was however determined that potential habitat occurred onsite for three (3) EPBC listed flora species:

- *Dicanthium setosum* – Bluegrass (Vulnerable)



- *Picris evae* – Hawkweed (Vulnerable)
- *Tylophora linearis* (Endangered)

Additionally, areas of the EPBC Critically Endangered Ecological Community (CEEC) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland were identified onsite.

As a result of potential habitat occurring onsite, an assessment of significance of the potential impacts resulting from the proposed rezoning has been undertaken for each of the species and the CEEC. The Assessment of Significance for each of the species and the CEEC has been included in Appendix F.

It was determined that, for each species and the CEEC a significant impact was not likely.

5.2.1 Register of Critical Habitat

The land proposed to be rezoned as a part of the STRLMPP Stage 2 project is absent from the register of "Critical Habitat" under the Commonwealth Environment Protection & Biodiversity Conservation Act 1999.

5.2.2 Key Threatening Processes

The proposed rezoning is not expected to significantly impact upon any EPBC Act or TSC Act listed flora species, communities, or national areas of significance. Subsequently, no key threatening processes are relevant to flora impacts resulting from the proposal. Impacts should be reassessed prior to any development actions, should these take place in the future.

5.3 Native Vegetation Conservation Act 2003

A number of areas within the subject site were identified as being comprised of 'native vegetation' as defined by the Native Vegetation Conservation Act 2003.

Under the Native Vegetation Act 2003, it is a requirement that the clearing of native vegetation (with the exception of regrowth) is required to be approved. The Act defines regrowth as:

"native vegetation which has regrown since 1st January 1990"

Land which contains native vegetation which cannot definitively be identified as 'regrowth' has been identified in Figure 4 (p49).



The identified land is subsequently considered to contain native vegetation, and clearing of vegetation in the area (if required) will require approval by the Namoi Catchment Management Authority (CMA). Advice regarding the rezoning of this land in relation to onsite vegetation should be sought from the Namoi CMA.



5.4 SEPP 44 Koala Habitat Protection

SEPP 44 defines “Potential Koala Habitat” as:

“...areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.”

As a result of the subject site containing ‘potential koala habitat’, the potential for the site to act as ‘core koala habitat’ was assessed. ‘Core Koala Habitat’ is identified as:

“...an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population.”

Koala Scat searches were undertaken in selected wooded areas (as per Figure 3 (p33)). No evidence of Koala inhabitation was observed. Subsequently no area within the assessed site was identified as Core Koala habitat under SEPP 44. As a result, no further consideration of SEPP 44 is required in relation to the proposed re-zoning.



6.0 Site Fauna Results

6.1 Data Review

A summary of species and communities returned in the EPBC Protected Matters and TSC Protected Matters searches can be found in Appendix E with the associated presence likelihood determination. The full reports generated for both the state and federal search can be found in Appendix D.

6.2 Recorded Species

During the site assessment, a number of fauna species were observed. The species recorded are presented in the table below.

Table 16: Observed Fauna Species

SCIENTIFIC NAME	COMMON NAME
<i>Malurus cyaneus</i>	Superb Fairy-wren
<i>Anthus novaeseelandiae</i>	Australian Pipit
<i>Platycercus elegans</i>	Crimson Rosella
<i>Gymnorhina tibicen</i>	Australian Magpie
<i>Manorina melancephala</i>	Noisy Miner
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo
<i>Glossopsitta concinna</i>	Musk Lorikeet
<i>Eolophus roseicapillus</i>	Galah
<i>Aquila audax</i>	Wedge Tailed Eagle
<i>Oriolus sagittatus</i>	Olive Backed Oriole
<i>Common Bronzewing</i>	Phaps chalcoptera
<i>Pied Currawong</i>	Strepera graculina
<i>Turnix velox</i>	Little Button-quail
<i>Geopelia placida</i>	Peaceful Dove



SCIENTIFIC NAME	COMMON NAME
<i>Gerygone fusca</i>	Western Gerygone
<i>Grallina cyanoleuca</i>	Magpie lark
<i>Neochmia temporalis</i>	Red-browed Finch
<i>Hirundo neoxena</i>	Welcome Swallow
<i>Ocyphaps lophotes</i>	Crested Pigeon
<i>Rhipidura leucophrys</i>	Willy wag-tail
<i>Rhipidura albiscarpa</i>	Grey Fantail
* <i>Corvidae spp.</i>	Black Crow
<i>Columbidae</i>	Exotic Dove Spp.
* <i>Sturnus tristis</i>	Common Myna
<i>Anthus novaeseelandiae</i>	Australian pipit
<i>Zosterops lateralis</i>	Silvereeye
<i>Philemon corniculatus</i>	Noisy Friarbird
<i>Pardalotus striatus</i>	Striated Pardalote
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater
<i>Milvus migrans</i>	Black Kite
<i>Macropus giganteus</i>	Eastern Grey Kangaroo
* <i>Lepus capensis</i>	Brown Hare
<i>Pogona Barbata</i>	Bearded Dragon

* Introduced species

The fauna survey did not record any EPBC or TSC threatened fauna species or communities. No permanent or semi-permanent water bodies were located in the immediate proposal area (the wetland community is not expected to be impacted by the proposal). None of the species observed are listed as threatened or endangered under the TSC Act or the EPBC Acts.



6.2.1 Fauna Species & Communities of Significance

Based upon the results of the flora survey, it has been determined whether or not the land and existing ecological communities of the study area form a threatened community or could potentially act as habitat for threatened fauna species that were not observed during the site assessment. The results of the habitat likelihood determination and resulting proposal impact determination are presented in Appendix E. A total of four (4) listed local fauna species and eight (8) listed migratory species have been determined to have the potential to occur onsite (although not observed). The species have been highlighted in grey in Appendix E and are replicated in the following table:

Table 17: Fauna Species and Communities of Significance Potentially Present

SPECIES/ COMMUNITY	STATUS	HABITAT DESCRIPTION
<i>Anthochaera phrygia</i> — Regent Honeyeater	EPBC Endangered TSC Endangered	Inhabits eucalypt open forests and woodlands, predominantly box-ironbark types, but also Spotted Gum and Swamp Mahogany on the coast. The species also inhabits River She-oak gallery forest with <i>Amyema cambagei</i> (Needle-leaf Mistletoe). ^{OEH}
<i>Falco subniger</i> — Black Falcon	TSC Vulnerable	Inhabits woodland, shrubland and grassland in the arid and semi-arid zones, especially wooded watercourses and agricultural land with scattered remnant trees. The Black Falcon is usually associated with streams or wetlands, visiting them in search of prey and often using standing dead trees as lookout posts. ^{OEH}
<i>Lathamus discolor</i> — Swift Parrot	EPBC Endangered TSC Endangered	Occurs in woodlands and forests of New South Wales from May to August, where it feeds on eucalypt nectar, pollen and associated insects. ^{OEH}
<i>Lophoictinia isura</i> — Square-tailed Kite	TSC Vulnerable	Forages over coastal and subcoastal, eucalypt-dominated open forests and woodlands, and inland riparian woodland. It particularly favours productive forests on the coastal plain, box-ironbark-gum woodlands on the inland slopes, and Coolibah/River Red Gum on the inland plains. ^{OEH}



SPECIES/ COMMUNITY	STATUS	HABITAT DESCRIPTION
<i>Ardea modesta</i> — Eastern Great Egret	Threatened Migratory	The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). ^{NOTE}
<i>Ardea ibis</i> — Cattle Egret	Threatened Migratory	Occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in arid and semi-arid regions however this is extremely rare. ^{NOTE}
<i>Haliaeetus leucogaster</i> — White-bellied Sea-eagle	Threatened Migratory	Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest (including rainforest) and even urban areas. Breeding has been recorded on the coast, at inland sites, and on offshore islands. ^{NOTE}
<i>Hirundapus caudacutus</i> — White-throated Needletail	Threatened Migratory	Occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. ^{NOTE}
<i>Merops ornatus</i> — Rainbow Bee-eater	Threatened Migratory	Occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation. It usually occurs in open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water. ^{NOTE}
<i>Myiagra cyanoleuca</i> — Satin Flycatcher	Threatened Migratory	Inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.*
<i>Rhipidura rufifrons</i> — Rufous Fantail	Threatened Migratory	Undergrowth of rainforests/wetter eucalypt forests/gullies, monsoon forests, paper barks, sub-inland and coastal scrubs, water courses, parks, gardens. When migrating, farms, streets, buildings.*



SPECIES/ COMMUNITY	STATUS	HABITAT DESCRIPTION
<i>Xanthomyza phrygia</i> – Regent Honeyeater	Endangered Migratory	Regent Honeyeaters mostly occur in dry Box-Ironbark eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites available, for example along creek flats, or in broad river valleys and foothills. ^{DOE}

*
OEH
DOE
Pizzey, G & Knight, F 2007 The Field Guide to the Birds of Australia, Harper Collins Publishing.
NSW Office of Environment & Heritage Threatened Species Listings
Department of the Environment Threatened Species Listings.

As a result of these species having the potential to occur onsite, the significance of any impacts on the potential habitat for these species is required to be assessed further. The Assessment of Significance for each species has been undertaken and included as Appendix F of this document.

6.3 Invasive Fauna Species

The invasive species *Lepus capensis* (Brown Hare) was observed onsite.



7.0 Application of Relevant Legislation

7.1 Threatened Species Conservation Act 1995

No fauna species listed as threatened under the NSW Threatened Species Conservation Act 2003 (TSC) were identified during the site assessment. It was however determined that potential habitat occurred onsite for four (4) TSC listed fauna species:

- *Falco subniger* – Black Falcon (Vulnerable)
- *Anthochaera phrygia*— Regent Honeyeater (Endangered)
- *Lathamus discolor* — Swift Parrot (Endangered)
- *Lophoictinia isura* – Square-tailed Kite (Vulnerable)

As a result of potential habitat occurring onsite, an assessment of significance of the potential impacts resulting from the proposed rezoning has been undertaken for the species. The Assessment of Significance for the species has been included in Appendix F.

It was determined that, a significant impact was not likely.

7.2 Environment Protection and Biodiversity Conservation Act 1999

No fauna species listed as threatened under the NSW Environment Protection & Biodiversity Conservation Act 1999 (EPBC) were identified during the site assessment. It was however determined that potential habitat occurred onsite for three (3) EPBC listed local species and eight (8) Listed migratory species:

- *Anthochaera phrygia* — Regent Honeyeater (Endangered)
- *Falco subniger* – Black Falcon (Vulnerable)
- *Lathamus discolor* — Swift Parrot (Endangered)



- *Ardea modesta*/ — Eastern Great Egret (Threatened Migratory)
- *Ardea ibis* — Cattle Egret (Threatened Migratory)
- *Haliaeetus leucogaster* – White-bellied Sea-eagle (Threatened Migratory)
- *Hirundapus caudacutus* — White-throated Needletail (Threatened Migratory)
- *Merops ornatus* — Rainbow Bee-eater (Threatened Migratory)
- *Myiagra cyanoleuca* — Satin Flycatcher (Threatened Migratory)
- *Xanthomyza phrygia* – Regent Honeyeater (Endangered Migratory)
- *Rhipidura rufifrons* — Rufous Fantail (Threatened)

As a result of potential habitat occurring onsite, an assessment of significance of the potential impacts resulting from the proposed rezoning has been undertaken for each of the species. The Assessment of Significance for each of the species has been included in Appendix F.

It was determined that, for each species a significant impact was not likely.

7.3 SEPP 44 Koala Habitat Protection

No Koalas or evidence of koalas were observed onsite. SEPP 44 has been addressed in more detail in section 5.4 (p53) of this document.

7.4 Key Threatening Processes

The proposed rezoning is not expected to significantly impact upon any EPBC or TSC Act listed fauna species, communities, or national areas of significance. Subsequently, no key threatening processes are relevant to fauna impacts resulting from the proposal.



8.0 Cumulative Impacts

8.1 Habitat Fragmentation

No habitat fragmentation is expected to occur as a result of the proposed rezoning. The assessed site has already been subject to large scale clearing, and no consistent high quality native habitat was identified that is likely to be subject to clearing following the proposed rezoning. Review of aerial imagery in addition to site assessment has determined that majority of onsite vegetation is significantly isolated and does not form part of any wider local or regional vegetation corridors.

Vegetation which does provide roadside and riparian connectivity is unlikely to be removed following the proposed rezoning. Specific development actions on all areas should be assessed prior to any construction works to ensure that all project specifics and implications of development are taken into account.

8.2 Feral Animals

No feral animal introduction, range changes or population number/density changes are expected to occur as a result of the proposed zoning.

8.3 Invasive Weeds

Onsite vegetation, while predominantly native contains a large number of exotic species (such as St Barnaby's Thistle). The proposed rezoning and subsequent change of landuse is likely to result in increased management of exotic weed species.



9.0 Conclusions

It has been determined that the proposed rezoning is unlikely to have any significant impact on any EPBC or TSC Act listed threatened flora or fauna species or communities.

It is therefore recommended that the proposed rezoning may progress without any further investigation into the ecology of the subject site as a whole, provided that the recommendations made in this report are complied with (Refer to Section 10.0 (63)).



10.0 Recommendations

It is recommended that:

- Encourage the use of native species in any landscaping associated with future development;
- Undertake more locally based, site specific ecology assessments prior to development of individual areas of the subject site, in particular in areas identified as 'Habitat 5';
- The development of any future riparian crossings are of a sensitive nature and do not require large scale vegetation clearing;
- Prevent development in ephemeral riparian areas where practical/possible; and
- The removal of and native vegetation not identified as 'regrowth' will require approval by the Namoi Catchment Management Authority. While no clearing is anticipated as a direct result of the proposed rezoning, it is advised that the Namoi Catchment Management Authority be consulted.



11.0 Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only.

The findings and recommendations made in this report are based upon the results of the flora and fauna survey carried out within the STRLMPP Stage 2 site, Duri Road, Tamworth, NSW.

This report may not be relied upon by any third party not named in this report for any purpose except with the prior written consent of Mitchel Hanlon Consulting Pty Ltd or Tamworth Regional Council (which consent may or may not be given at the discretion of Mitchel Hanlon Consulting Pty Ltd or Tamworth Regional Council).

This report comprises the formal report, documentation sections, tables, figures and appendices as referred to in the index to this report and must not be released to any third party or copied in part without all the material included in this report for any reason.

The report only relates to the identified site referred to in the scope of works being the Tamworth Regional Council, STRLMPP Stage 2 site identified as identified in Table 6 (p21) of this document ('the site').

The report relates to the site as at the date of the report as conditions may change thereafter due to natural processes and/or site activities.

No warranty or guarantee is made in regard to any other use than as specified in the scope of works and only applies to the area surveyed and reported in this report.



12.0 References

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Appendix A Title Documentation



Title Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 3/38808

SEARCH DATE	TIME	EDITION NO	DATE
10/3/2014	8:42 AM	3	15/6/2000

LAND

LOT 3 IN DEPOSITED PLAN 38808
AT TAMWORTH
LOCAL GOVERNMENT AREA TAMWORTH REGIONAL
PARISH OF CALALA COUNTY OF PARRY
TITLE DIAGRAM DP38808

FIRST SCHEDULE

SAMANTHA MARGARET NEWMAN (T 6863221)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 Q12414 EASEMENT FOR ELECTRICITY PURPOSES AFFECTING THAT
PART OF THE LAND WITHIN DESCRIBED SHOWN AS VAR WIDTH
IN DP118856
- * 3 NOTIFICATION IN GOVERNMENT GAZETTE DATED 3/7/1964 FOLIO 2097/8:
EASEMENT FOR TRANSMISSION LINE AFFECTING THE LAND SHOWN SO
BURDENED IN SDB 64/97 PLAN 1
3683212 EASEMENT VESTED IN NEW SOUTH WALES ELECTRICITY
TRANSMISSION AUTHORITY
- 4 6863222 MORTGAGE TO NORTHERN INLAND CREDIT UNION LIMITED

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES
NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED
CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS
RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE
IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND
COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

mg

PRINTED ON 10/3/2014

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Title Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 4/38808

SEARCH DATE	TIME	EDITION NO	DATE
10/3/2014	8:42 AM	4	15/6/2000

LAND

LOT 4 IN DEPOSITED PLAN 38808
AT TAMWORTH
LOCAL GOVERNMENT AREA TAMWORTH REGIONAL
PARISH OF CALALA COUNTY OF PARRY
TITLE DIAGRAM DP38808

FIRST SCHEDULE

SAMANTHA MARGARET NEWMAN

(T 6863221)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 Q12414 EASEMENT FOR ELECTRICITY PURPOSES AFFECTING THAT
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BURDENED IN SDB 64/97 PLAN 1
3683212 EASEMENT VESTED IN NEW SOUTH WALES ELECTRICITY
TRANSMISSION AUTHORITY
- 4 6863222 MORTGAGE TO NORTHERN INLAND CREDIT UNION LIMITED

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UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Title Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 4/233288

SEARCH DATE	TIME	EDITION NO	DATE
10/3/2014	8:41 AM	2	28/11/1989

LAND

LOT 4 IN DEPOSITED PLAN 233288
AT CALALA
LOCAL GOVERNMENT AREA TAMWORTH REGIONAL
PARISH OF CALALA COUNTY OF PARRY
TITLE DIAGRAM DP233288

FIRST SCHEDULE

BARRY JAMES BLACK
JOY ELIZABETH BLACK
AS JOINT TENANTS

(T Y411232)

SECOND SCHEDULE (5 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- * 2 EASEMENT FOR TRANSMISSION LINE IN GOV GAZ DATED 3.7.1964 FOL 2098
AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN AS EASEMENT
FOR POWER TRANSMISSION LINE 57.6 WIDE IN DP233288
- * 2317585 EASEMENT VESTED IN NEW SOUTH WALES ELECTRICITY
TRANSMISSION AUTHORITY
- 3 L21619 COVENANT
- 4 Y411233 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED
- 5 Y719991 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

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UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Title Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 5/233288

SEARCH DATE	TIME	EDITION NO	DATE
24/3/2014	1:44 PM	6	20/5/2009

LAND

LOT 5 IN DEPOSITED PLAN 233288
AT CALALA
LOCAL GOVERNMENT AREA TAMWORTH REGIONAL
PARISH OF CALALA COUNTY OF PARRY
TITLE DIAGRAM DP233288

FIRST SCHEDULE

MARK JOHN ROBB

(T AB85907)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- * 2 EASEMENT FOR TRANSMISSION LINE IN GOV GAZ DATED 3.7.1964 FOL 2098
AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN AS EASEMENT
FOR POWER TRANSMISSION LINE 57.6 WIDE IN DP233288
2317585 EASEMENT VESTED IN NEW SOUTH WALES ELECTRICITY
TRANSMISSION AUTHORITY
- 3 L21618 COVENANT
- 4 AE693264 MORTGAGE TO NEW ENGLAND CREDIT UNION LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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24/03/2014



Appendix B Site Photographs



Plate 1: Vegetation characteristic of Onsite Managed Exotic Gardens



Plate 2: Vegetation characteristic of Onsite Exotic Pasture/Grasslands



Plate 3: Vegetation characteristic of Onsite Native Eucalypt Plantings



Plate 4: Vegetation characteristic of Onsite Degraded White Box Woodlands



Plate 5: Vegetation characteristic of Onsite White Box Critically Endangered Ecological Community



Appendix C Flora Survey Quadrants



Date & Time: Thu Feb 6 09:39:36 EST 2014
Position: -031.13796° / +150.88731°
Altitude: 1400ft
Azimuth/Bearing: 190° S10W 3378mils (True)
Elevation Angle: -00.2°
Horizon Angle: +00.2°
Zoom: 1X

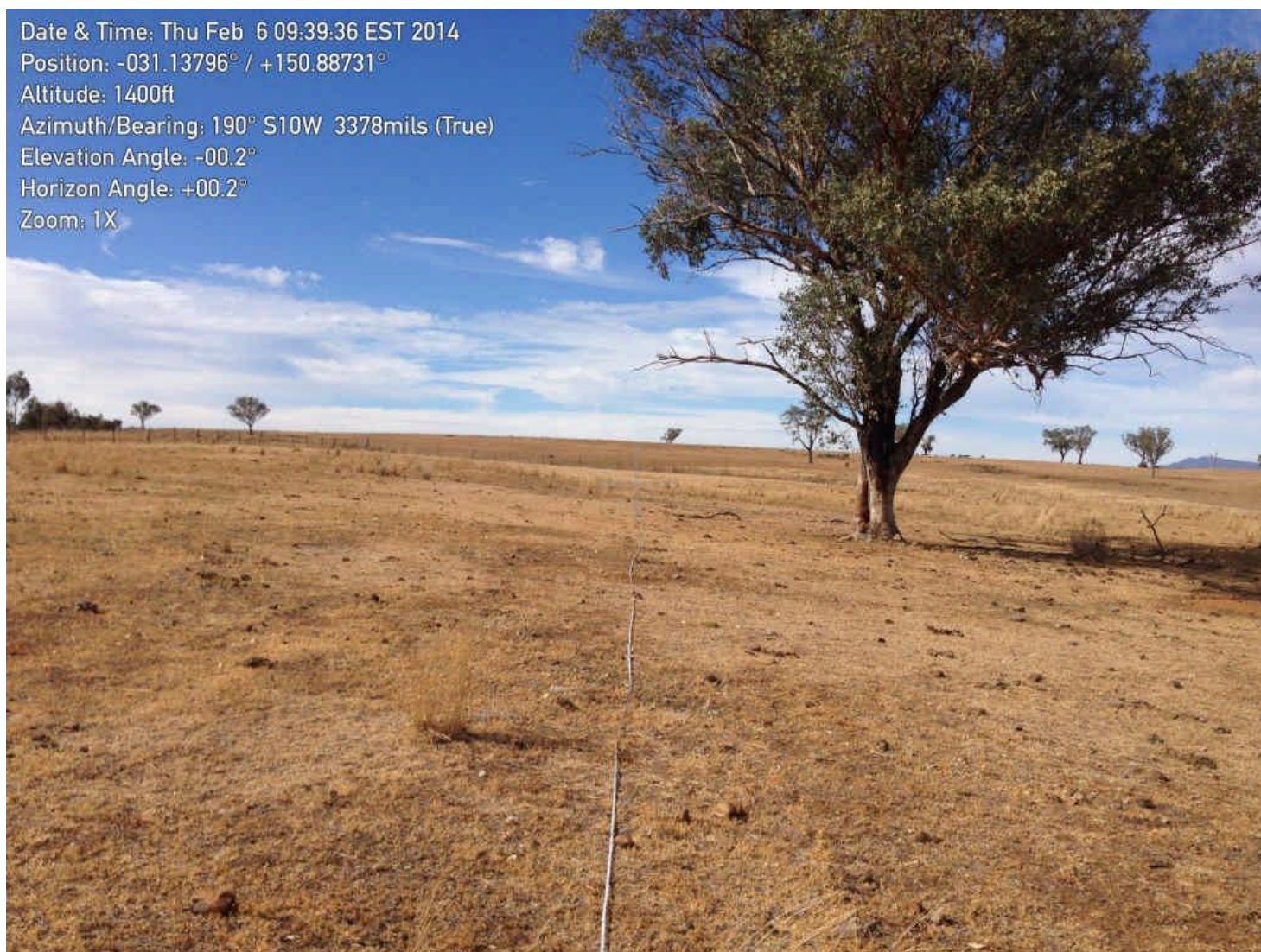


Plate 6: Flora Transect P01



Plate 7: Flora Transect P02



Plate 8: Flora Transect P03



Plate 9: Flora Transect P04



Plate 10: Flora Transect P05



Plate 11: Flora Transect P06



Plate 12: Flora Transect P07



Date & Time: Thu Feb 6 11:48:47 EST 2014
Position: -031.13578° / +150.90543°
Altitude: 1425ft
Azimuth/Bearing: 348° N12W 6187mils (True)
Elevation Angle: -00.4°
Horizon Angle: +00.5°
Zoom: 1X



Plate 13: Flora Transect P08



Plate 14: Flora Transect P09



Plate 15: Flora Transect P10



Plate 16: Flora Transect P11



Plate 17: Flora Transect P12



Appendix D Threatened Species Searches

Data from the BioNet Atlas of NSW Wildlife website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions.

Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°; ^^ rounded to 0.01°).

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Search criteria : Public Report of all Valid Records of Entities in selected area [North: -31.08 West: 150.85999999999999 East: 150.95999999999998 South: -31.18] returned a total of 1,423 records of 662 species.

Report generated on 16/12/2013 8:19

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Amphibia	Myobatrachidae	3134	<i>Crinia signifera</i>		Common Eastern Froglet	P		1	
Animalia	Amphibia	Myobatrachidae	3112	<i>Limnodynastes ornatus</i>		Ornate Burrowing Frog	P		1	
Animalia	Amphibia	Myobatrachidae	3062	<i>Limnodynastes salmini</i>		Salmon Striped Frog	P		1	
Animalia	Amphibia	Myobatrachidae	3063	<i>Limnodynastes tasmaniensis</i>		Spotted Grass Frog	P		2	
Animalia	Amphibia	Hylidae	3171	<i>Litoria caerulea</i>		Green Tree Frog	P		2	
Animalia	Amphibia	Hylidae	3191	<i>Litoria latopalmata</i>		Broad-palmed Frog	P		2	
Animalia	Amphibia	Hylidae	3204	<i>Litoria peronii</i>		Peron's Tree Frog	P		2	
Animalia	Amphibia	Bufonidae	3269	<i>Rhinella marina</i>	*	Cane Toad			1	
Animalia	Reptilia	Gekkonidae	2082	<i>Gehyra dubia</i>		Dubious Dtella	P		2	
Animalia	Reptilia	Gekkonidae	2105	<i>Heteronotia binoei</i>		Bynoe's Gecko	P		1	
Animalia	Reptilia	Gekkonidae	2123	<i>Oedura robusta</i>		Robust Velvet Gecko	P		1	
Animalia	Reptilia	Gekkonidae	2059	<i>Strophurus intermedius</i>		Southern Spiny-tailed Gecko	P		1	
Animalia	Reptilia	Gekkonidae	2078	<i>Strophurus williamsi</i>		Eastern Spiny-tailed Gecko	P		1	
Animalia	Reptilia	Gekkonidae	2138	<i>Underwoodisaurus milii</i>		Thick-tailed Gecko	P		2	
Animalia	Reptilia	Gekkonidae	2139	<i>Underwoodisaurus sphyrurus</i>		Border Thick-tailed Gecko	V,P	V	6	
Animalia	Reptilia	Pygopodidae	2165	<i>Delma tincta</i>		Excitable Delma	P		1	
Animalia	Reptilia	Pygopodidae	2170	<i>Lialis burtonis</i>		Burton's Snake-lizard	P		3	
Animalia	Reptilia	Scincidae	2318	<i>Carlia tetradactyla</i>		Southern Rainbow-skink	P		1	
Animalia	Reptilia	Scincidae	2331	<i>Cryptoblepharus virgatus</i>		Cream-striped Shinning-skink	P		2	
Animalia	Reptilia	Scincidae	2375	<i>Ctenotus robustus</i>		Robust Ctenotus	P		1	
Animalia	Reptilia	Scincidae	2429	<i>Egernia striolata</i>		Tree Skink	P		3	
Animalia	Reptilia	Typhlopidae	2603	<i>Ramphotyphlops proximus</i>		Proximus Blind Snake	P		1	
Animalia	Reptilia	Typhlopidae	2606	<i>Ramphotyphlops wiedii</i>		Brown-snouted Blind Snake	P		2	
Animalia	Reptilia	Elapidae	2711	<i>Brachyuropsis australis</i>		Coral Snake	P		1	
Animalia	Reptilia	Elapidae	2655	<i>Demansia psammophis</i>		Yellow-faced Whip Snake	P		1	
Animalia	Reptilia	Elapidae	2669	<i>Furina diadema</i>		Red-naped Snake	P		2	
Animalia	Reptilia	Elapidae	2726	<i>Parasuta dwyeri</i>		Dwyer's Snake	P		1	
Animalia	Reptilia	Elapidae	2699	<i>Pseudonaja textilis</i>		Eastern Brown Snake	P		1	
Animalia	Reptilia	Elapidae	2734	<i>Vermicella annulata</i>		Bandy-bandy	P		2	
Animalia	Aves	Anatidae	0211	<i>Anas gracilis</i>		Grey Teal	P		3	
Animalia	Aves	Anatidae	0208	<i>Anas superciliosa</i>		Pacific Black Duck	P		3	
Animalia	Aves	Anatidae	0202	<i>Chenonetta jubata</i>		Australian Wood Duck	P		4	
Animalia	Aves	Anatidae	0205	<i>Dendrocygna eytoni</i>		Plumed Whistling-Duck	P		1	
Animalia	Aves	Columbidae	0043	<i>Ocyphaps lophotes</i>		Crested Pigeon	P		5	
Animalia	Aves	Columbidae	0989	<i>Streptopelia chinensis</i>	*	Spotted Turtle-Dove			2	
Animalia	Aves	Podargidae	0313	<i>Podargus strigoides</i>		Tawny Frogmouth	P		3	
Animalia	Aves	Aegothelidae	0317	<i>Aegotheles cristatus</i>		Australian Owlet-nightjar	P		1	
Animalia	Aves	Phalacrocoracidae	0100	<i>Microcarbo melanoleucos</i>		Little Pied Cormorant	P		1	
Animalia	Aves	Phalacrocoracidae	0096	<i>Phalacrocorax carbo</i>		Great Cormorant	P		1	
Animalia	Aves	Ardeidae	0189	<i>Ardea pacifica</i>		White-necked Heron	P		1	
Animalia	Aves	Ardeidae	0188	<i>Egretta novaehollandiae</i>		White-faced Heron	P		1	
Animalia	Aves	Threskiornithidae	0180	<i>Threskiornis spinicollis</i>		Straw-necked Ibis	P		3	
Animalia	Aves	Accipitridae	0224	<i>Aquila audax</i>		Wedge-tailed Eagle	P		1	
Animalia	Aves	Accipitridae	0228	<i>Haliastur sphenurus</i>		Whistling Kite	P		1	
Animalia	Aves	Accipitridae	0230	<i>^Lophoictinia isura</i>		Square-tailed Kite	V,P,3		1	
Animalia	Aves	Accipitridae	0229	<i>Milvus migrans</i>		Black Kite	P		2	
Animalia	Aves	Falconidae	0240	<i>Falco cenchroides</i>		Nankeen Kestrel	P		2	
Animalia	Aves	Falconidae	0235	<i>Falco longipennis</i>		Australian Hobby	P		1	
Animalia	Aves	Falconidae	0238	<i>Falco subniger</i>		Black Falcon	V,P		2	
Animalia	Aves	Rallidae	0056	<i>Gallinula tenebrosa</i>		Dusky Moorhen	P		1	
Animalia	Aves	Charadriidae	0144	<i>Elseya melanops</i>		Black-fronted Dotterel	P		1	
Animalia	Aves	Charadriidae	0133	<i>Vanellus miles</i>		Masked Lapwing	P		3	
Animalia	Aves	Cacatuidae	0269	<i>Cacatua galerita</i>		Sulphur-crested Cockatoo	P		3	
Animalia	Aves	Cacatuidae	0273	<i>Eolophus roseicapillus</i>		Galah	P		5	
Animalia	Aves	Cacatuidae	0274	<i>Nymphicus hollandicus</i>		Cockatiel	P		1	
Animalia	Aves	Psittacidae	0258	<i>Glossopsitta concinna</i>		Musk Lorikeet	P		1	
Animalia	Aves	Psittacidae	0288	<i>Platycercus eximius</i>		Eastern Rosella	P		5	
Animalia	Aves	Psittacidae	0295	<i>Psephotus</i>		Red-rumped Parrot	P		4	

Animalia	Aves	Psittacidae	9947	<i>haematonotus</i> <i>Trichoglossus</i> <i>haematodus</i>	Rainbow Lorikeet	P		2	
Animalia	Aves	Strigidae	9922	<i>Ninox novaeseelandiae</i>	Southern Boobook	P		1	
Animalia	Aves	Tytonidae	9923	<i>Tyto javanica</i>	Eastern Barn Owl	P		1	
Animalia	Aves	Alcedinidae	0322	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	P		1	
Animalia	Aves	Acanthizidae	0486	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	P		1	
Animalia	Aves	Pardalotidae	0976	<i>Pardalotus striatus</i>	Striated Pardalote	P		1	
Animalia	Aves	Meliphagidae	0640	<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	P		1	
Animalia	Aves	Meliphagidae	0638	<i>Anthochaera carunculata</i>	Red Wattlebird	P		1	
Animalia	Aves	Meliphagidae	0641	<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	P		1	
Animalia	Aves	Meliphagidae	0614	<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater	P		1	
Animalia	Aves	Meliphagidae	0625	<i>Lichenostomus</i> <i>penicillatus</i>	White-plumed Honeyeater	P		1	
Animalia	Aves	Meliphagidae	0597	<i>Lichmera indistincta</i>	Brown Honeyeater	P		1	
Animalia	Aves	Meliphagidae	0634	<i>Manorina melanocephala</i>	Noisy Miner	P		4	
Animalia	Aves	Meliphagidae	0646	<i>Philemon citreogularis</i>	Little Friarbird	P		1	
Animalia	Aves	Meliphagidae	0645	<i>Philemon corniculatus</i>	Noisy Friarbird	P		3	
Animalia	Aves	Campephagidae	0424	<i>Coracina</i> <i>novaehollandiae</i>	Black-faced Cuckoo-shrike	P		3	
Animalia	Aves	Campephagidae	0425	<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike	P		1	
Animalia	Aves	Artamidae	0700	<i>Cracticus nigrogularis</i>	Pied Butcherbird	P		2	
Animalia	Aves	Artamidae	0705	<i>Cracticus tibicen</i>	Australian Magpie	P		5	
Animalia	Aves	Artamidae	0702	<i>Cracticus torquatus</i>	Grey Butcherbird	P		1	
Animalia	Aves	Rhipiduridae	0364	<i>Rhipidura leucophrys</i>	Willie Wagtail	P		3	
Animalia	Aves	Corvidae	0930	<i>Corvus coronoides</i>	Australian Raven	P		3	
Animalia	Aves	Monarchidae	0415	<i>Grallina cyanoleuca</i>	Magpie-lark	P		5	
Animalia	Aves	Corcoracidae	0693	<i>Corcorax</i> <i>melanorhamphos</i>	White-winged Chough	P		1	
Animalia	Aves	Megaluridae	0509	<i>Cincloramphus mathewsi</i>	Rufous Songlark	P		1	
Animalia	Aves	Timaliidae	0574	<i>Zosterops lateralis</i>	Silvereye	P		1	
Animalia	Aves	Hirundinidae	0357	<i>Hirundo neoxena</i>	Welcome Swallow	P		2	
Animalia	Aves	Hirundinidae	0360	<i>Petrochelidon ariel</i>	Fairy Martin	P		1	
Animalia	Aves	Sturnidae	0998	<i>Sturnus tristis</i> *	Common Myna			1	
Animalia	Aves	Sturnidae	0999	<i>Sturnus vulgaris</i> *	Common Starling			5	
Animalia	Aves	Estrildidae	0653	<i>Taeniopygia guttata</i>	Zebra Finch	P		1	
Animalia	Aves	Passeridae	0995	<i>Passer domesticus</i> *	House Sparrow			5	
Animalia	Aves	Motacillidae	0647	<i>Anthus novaeseelandiae</i>	Australian Pipit	P		1	
Animalia	Mammalia	Tachyglossidae	1003	<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	P		4	
Animalia	Mammalia	Dasyuridae	1008	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	5	
Animalia	Mammalia	Dasyuridae	1061	<i>Sminthopsis murina</i>	Common Dunnart	P		1	
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>	Koala	V,P	V	2	
Animalia	Mammalia	Vombatidae	1165	<i>Vombatus ursinus</i>	Common Wombat	P		1	
Animalia	Mammalia	Petauridae	1137	<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		3	
Animalia	Mammalia	Phalangeridae	T082	<i>Trichosurus sp.</i>	brushtail possum	P		7	
Animalia	Mammalia	Phalangeridae	1113	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	P		2	
Animalia	Mammalia	Macropodidae	1265	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	P		3	
Animalia	Mammalia	Macropodidae	1266	<i>Macropus robustus</i>	Common Wallaroo	P		1	
Animalia	Mammalia	Macropodidae	T085	<i>Macropus sp.</i>	kangaroo / wallaby	P		1	
Animalia	Mammalia	Macropodidae	1242	<i>Wallabia bicolor</i>	Swamp Wallaby	P		1	
Animalia	Mammalia	Pteropodidae	1281	<i>Pteropus scapulatus</i>	Little Red Flying-fox	P		1	
Animalia	Mammalia	Molossidae	T212	<i>Mormopterus "Species 2"</i>	Undescribed Freetail Bat	P		1	
Animalia	Mammalia	Molossidae	1324	<i>Tadarida australis</i>	White-striped Freetail-bat	P		2	
Animalia	Mammalia	Vespertilionidae	1349	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	P		2	
Animalia	Mammalia	Vespertilionidae	1364	<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat	P		1	
Animalia	Mammalia	Vespertilionidae	1379	<i>Vespadelus vulturnus</i>	Little Forest Bat	P		1	
Animalia	Mammalia	Muridae	1412	<i>Mus musculus</i> *	House Mouse			1	
Animalia	Mammalia	Canidae	1532	<i>Vulpes vulpes</i> *	Fox			19	
Animalia	Mammalia	Felidae	1536	<i>Felis catus</i> *	Cat			2	
Animalia	Mammalia	Leporidae	1511	<i>Lepus capensis</i> *	Brown Hare			2	
Animalia	Mammalia	Leporidae	1510	<i>Oryctolagus cuniculus</i> *	Rabbit			2	
Animalia	Mammalia	Bovidae	1518	<i>Bos taurus</i> *	European cattle			1	
Plantae	Flora	Acanthaceae	1003	<i>Brunoniella australis</i>	Blue Trumpet			4	
Plantae	Flora	Acanthaceae	12393	<i>Rostellularia adscendens</i> var. <i>adscendens</i>				7	
Plantae	Flora	Acanthaceae	12394	<i>Rostellularia adscendens</i>	Pink Tongues			1	

				<i>var. pogonanthera</i>			
Plantae	Flora	Adiantaceae	7997	<i>Adiantum aethiopicum</i>	Common Maidenhair	P	3
Plantae	Flora	Adiantaceae	10516	<i>Adiantum atroviride</i>		P	1
Plantae	Flora	Adiantaceae	6382	<i>Cheilanthes distans</i>	Bristly Cloak Fern		7
Plantae	Flora	Adiantaceae	8006	<i>Cheilanthes lasiophylla</i>			1
Plantae	Flora	Adiantaceae	10439	<i>Cheilanthes sieberi</i>	Rock Fern		2
Plantae	Flora	Adiantaceae	10489	<i>Pellaea caliduripum</i>			1
Plantae	Flora	Adiantaceae	8444	<i>Pellaea falcata</i>	Sickle Fern		4
Plantae	Flora	Aizoaceae	7476	<i>Galenia pubescens</i>	Galenia	*	1
Plantae	Flora	Alliaceae	8963	<i>Nothoscordum borbonicum</i>	Onion Weed	*	1
Plantae	Flora	Amaranthaceae	7191	<i>Alternanthera pungens</i>	Khaki Weed	*	2
Plantae	Flora	Amaranthaceae	1060	<i>Amaranthus powellii</i>	Powell's Amaranth	*	2
Plantae	Flora	Amaranthaceae	1062	<i>Amaranthus retroflexus</i>	Redroot Amaranth	*	2
Plantae	Flora	Amaranthaceae	AMAR	<i>Amaranthus spp.</i>	Amaranth		1
Plantae	Flora	Amaranthaceae	1064	<i>Amaranthus viridis</i>	Green Amaranth	*	1
Plantae	Flora	Amaranthaceae	7056	<i>Gomphrena celosioides</i>	Gomphrena Weed	*	1
Plantae	Flora	Amaranthaceae	6575	<i>Guilleminea densa</i>	Small Matweed	*	1
Plantae	Flora	Amygdalaceae	5625	<i>Prunus persica</i>		*	1
Plantae	Flora	Anacardiaceae	9604	<i>Pistacia chinensis</i>	Chinese Pistachio	*	2
Plantae	Flora	Anacardiaceae	1086	<i>Schinus areira</i>	Pepper Tree	*	2
Plantae	Flora	Anthericaceae	3518	<i>Arthropodium minus</i>	Small Vanilla Lily		2
Plantae	Flora	Anthericaceae	9097	<i>Arthropodium sp. B</i>			4
Plantae	Flora	Anthericaceae	3544	<i>Dichopogon fimbriatus</i>	Nodding Chocolate Lily		2
Plantae	Flora	Apiaceae	1098	<i>Ammi majus</i>	Bishop's Weed	*	1
Plantae	Flora	Apiaceae	11195	<i>Cyclospermum leptophyllum</i>	Slender Celery	*	1
Plantae	Flora	Apiaceae	1109	<i>Daucus glochidiatus</i>	Native Carrot		1
Plantae	Flora	Apiaceae	8805	<i>Daucus glochidiatus f. F</i>	Native Carrot		1
Plantae	Flora	Apiaceae	1118	<i>Foeniculum vulgare</i>	Fennel	*	3
Plantae	Flora	Apiaceae	1123	<i>Hydrocotyle bonariensis</i>		*	1
Plantae	Flora	Apiaceae	1128	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort		2
Plantae	Flora	Apocynaceae	11047	<i>Araujia sericifera</i>	Moth Vine	*	1
Plantae	Flora	Apocynaceae	1227	<i>Gomphocarpus fruticosus</i>	Narrow-leaved Cotton Bush	*	4
Plantae	Flora	Apocynaceae	7005	<i>Mandevilla laxa</i>	Chilean Jasmine	*	1
Plantae	Flora	Apocynaceae	10204	<i>Nerium oleander</i>	Oleander	*	1
Plantae	Flora	Apocynaceae	1178	<i>Parsonsia eucalyptophylla</i>	Gargaloo		1
Plantae	Flora	Apocynaceae	1181	<i>Parsonsia lanceolata</i>	Rough Silkpod		1
Plantae	Flora	Apocynaceae	1239	<i>Tweedia coerulea</i>		*	1
Plantae	Flora	Araliaceae	1207	<i>Hedera helix</i>	English Ivy	*	2
Plantae	Flora	Asparagaceae	11784	<i>Asparagus aethiopicus</i>	Asparagus Fern	*	1
Plantae	Flora	Asparagaceae	3519	<i>Asparagus asparagoides</i>	Bridal Creeper	*	1
Plantae	Flora	Asparagaceae	3521	<i>Asparagus officinalis</i>	Asparagus	*	1
Plantae	Flora	Asphodelaceae	3524	<i>Asphodelus fistulosus</i>	Onion Weed	*	1
Plantae	Flora	Asphodelaceae	3531	<i>Bulbine bulbosa</i>	Bulbine Lily		2
Plantae	Flora	Aspleniaceae	8033	<i>Asplenium flabellifolium</i>	Necklace Fern		3
Plantae	Flora	Asteraceae	1273	<i>Arctotheca calendula</i>	Capeweed	*	3
Plantae	Flora	Asteraceae	12692	<i>Artemisia ludoviciana</i>		*	1
Plantae	Flora	Asteraceae	1280	<i>Aster subulatus</i>	Wild Aster	*	2
Plantae	Flora	Asteraceae	1283	<i>Bidens pilosa</i>	Cobbler's Pegs	*	5
Plantae	Flora	Asteraceae	1284	<i>Bidens subalternans</i>	Greater Beggar's Ticks	*	5
Plantae	Flora	Asteraceae	7902	<i>Brachyscome ciliaris</i>	Variable Daisy		1
Plantae	Flora	Asteraceae	7317	<i>Brachyscome multifida</i>	Cut-leaved Daisy		1
Plantae	Flora	Asteraceae	10175	<i>Calendula officinalis</i>	Common Marigold	*	1
Plantae	Flora	Asteraceae	1344	<i>Calotis lappulacea</i>	Yellow Burr-daisy		12
Plantae	Flora	Asteraceae	1355	<i>Carduus tenuiflorus</i>	Winged Slender Thistle	*	1
Plantae	Flora	Asteraceae	1358	<i>Carthamus lanatus</i>	Saffron Thistle	*	2
Plantae	Flora	Asteraceae	1370	<i>Cassinia quinquefaria</i>			6
Plantae	Flora	Asteraceae	1382	<i>Centaurea melitensis</i>	Maltese Cockspur	*	1
Plantae	Flora	Asteraceae	1383	<i>Centaurea solstitialis</i>	St Barnabys Thistle	*	6
Plantae	Flora	Asteraceae	1391	<i>Chondrilla juncea</i>	Skeleton Weed	*	1
Plantae	Flora	Asteraceae	8559	<i>Chryscephalum apiculatum</i>	Common Everlasting		3
Plantae	Flora	Asteraceae	1400	<i>Cirsium vulgare</i>	Spear Thistle	*	7
Plantae	Flora	Asteraceae	1404	<i>Conyza bonariensis</i>	Flaxleaf Fleabane	*	7
Plantae	Flora	Asteraceae	CONY	<i>Conyza spp.</i>	A Fleabane	*	1
Plantae	Flora	Asteraceae	10442	<i>Conyza sumatrensis</i>	Tall fleabane	*	5

Plantae	Flora	Asteraceae	1412	<i>Cotula australis</i>	Common Cotula	1
Plantae	Flora	Asteraceae	1426	<i>Cymbonotus lawsonianus</i>	Bear's Ear	4
Plantae	Flora	Asteraceae	9904	<i>Euchiton involucratus</i>	Star Cudweed	2
Plantae	Flora	Asteraceae	13989	<i>Glossocardia bidens</i>	Cobbler's Tack	3
Plantae	Flora	Asteraceae	7468	<i>Hedypnois rhagadioloides</i>	Cretan Weed	1
Plantae	Flora	Asteraceae	8913	<i>Hedypnois rhagadioloides</i> subsp. <i>cretica</i>	Cretan Weed	1
Plantae	Flora	Asteraceae	1472	<i>Helianthus annuus</i>	Common Sunflower	2
Plantae	Flora	Asteraceae	1540	<i>Hypochaeris glabra</i>	Smooth Catsear	3
Plantae	Flora	Asteraceae	8788	<i>Hypochaeris radicata</i>	Catsear	1
Plantae	Flora	Asteraceae	1542	<i>Isoetopsis graminifolia</i>	Grass Cushion	1
Plantae	Flora	Asteraceae	1549	<i>Lactuca saligna</i>	Willow-leaved Lettuce	1
Plantae	Flora	Asteraceae	1550	<i>Lactuca serriola</i>	Prickly Lettuce	2
Plantae	Flora	Asteraceae	12049	<i>Leiocarpa panaetioides</i>	Wooly Buttons	2
Plantae	Flora	Asteraceae	LEIO	<i>Leiocarpa</i> spp.		1
Plantae	Flora	Asteraceae	1590	<i>Olearia elliptica</i>	Sticky Daisy-bush	1
Plantae	Flora	Asteraceae	10480	<i>Olearia elliptica</i> subsp. <i>elliptica</i>		8
Plantae	Flora	Asteraceae	1618	<i>Olearia viscidula</i>	Wallaby Weed	2
Plantae	Flora	Asteraceae	8884	<i>Onopordum acanthium</i> subsp. <i>acanthium</i>	Scotch Thistle	1
Plantae	Flora	Asteraceae	10176	<i>Osteospermum ecklonis</i>	Cape Daisy	2
Plantae	Flora	Asteraceae	8911	<i>Pycnosorus globosus</i>	Drumsticks	1
Plantae	Flora	Asteraceae	10166	<i>Schkuhria pinnata</i> var. <i>abrotanoides</i>	Dwarf Marigold	3
Plantae	Flora	Asteraceae	11809	<i>Senecio bathurstianus</i>		1
Plantae	Flora	Asteraceae	6465	<i>Senecio madagascariensis</i>	Fireweed	1
Plantae	Flora	Asteraceae	12811	<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>		2
Plantae	Flora	Asteraceae	1675	<i>Senecio quadridentatus</i>	Cotton Fireweed	3
Plantae	Flora	Asteraceae	8781	<i>Sigesbeckia australiensis</i>		1
Plantae	Flora	Asteraceae	8789	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	Indian Weed	1
Plantae	Flora	Asteraceae	1684	<i>Silybum marianum</i>	Variegated Thistle	3
Plantae	Flora	Asteraceae	8253	<i>Solenogyne belliioides</i>	Solengyne	1
Plantae	Flora	Asteraceae	7851	<i>Soliva sessilis</i>	Bindyi	2
Plantae	Flora	Asteraceae	6513	<i>Sonchus asper</i> subsp. <i>asper</i>	Prickly Sowthistle	1
Plantae	Flora	Asteraceae	1690	<i>Sonchus oleraceus</i>	Common Sowthistle	3
Plantae	Flora	Asteraceae	1693	<i>Stuartina hamata</i>	Hooked Cudweed	1
Plantae	Flora	Asteraceae	1695	<i>Tagetes minuta</i>	Stinking Roger	2
Plantae	Flora	Asteraceae	1698	<i>Taraxacum officinale</i>	Dandelion	3
Plantae	Flora	Asteraceae	14051	<i>Tragopogon porrifolius</i> subsp. <i>porrifolius</i>	Salsify	3
Plantae	Flora	Asteraceae	8925	<i>Triptilodiscus pygmaeus</i>	Common Sunray	1
Plantae	Flora	Asteraceae	1711	<i>Vittadinia cuneata</i>	A Fuzzweed	1
Plantae	Flora	Asteraceae	6992	<i>Vittadinia cuneata</i> var. <i>hirsuta</i>		1
Plantae	Flora	Asteraceae	7069	<i>Vittadinia dissecta</i> var. <i>hirta</i>		3
Plantae	Flora	Asteraceae	1716	<i>Vittadinia muelleri</i>	A Fuzzweed	6
Plantae	Flora	Asteraceae	1719	<i>Vittadinia sulcata</i>		4
Plantae	Flora	Asteraceae	7130	<i>Xanthium occidentale</i>	Noogoora Burr	1
Plantae	Flora	Asteraceae	1729	<i>Xanthium spinosum</i>	Bathurst Burr	1
Plantae	Flora	Asteraceae	1731	<i>Zinnia peruviana</i>		1
Plantae	Flora	Bignoniaceae	1737	<i>Macfadyena unguis-cati</i>	Cat's Claw Creeper	1
Plantae	Flora	Bignoniaceae	1740	<i>Pandorea pandorana</i>	Wonga Wonga Vine	6
Plantae	Flora	Bignoniaceae	10485	<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	Wonga Wonga Vine	1
Plantae	Flora	Blechnaceae	8064	<i>Doodia aspera</i>	Prickly Rasp Fern	1
Plantae	Flora	Boraginaceae	1742	<i>Amsinckia calycina</i>	hairy Fiddleneck	1
Plantae	Flora	Boraginaceae	8707	<i>Buglossoides arvensis</i>	Sheepweed	1
Plantae	Flora	Boraginaceae	1749	<i>Cynoglossum suaveolens</i>	Sweet Hound's-tongue	1
Plantae	Flora	Boraginaceae	1751	<i>Echium plantagineum</i>	Patterson's Curse	3
Plantae	Flora	Boraginaceae	1758	<i>Heliotropium amplexicaule</i>	Blue Heliotrope	1
Plantae	Flora	Brassicaceae	1794	<i>Capsella bursa-pastoris</i>	Shepherd's Purse	4
Plantae	Flora	Brassicaceae	1800	<i>Coronopus didymus</i>	Lesser Swinecress	1
Plantae	Flora	Brassicaceae	1814	<i>Hirschfeldia incana</i>	Buchan Weed	2
Plantae	Flora	Brassicaceae	1815	<i>Lepidium africanum</i>	Common Peppergrass	4
Plantae	Flora	Brassicaceae	1817	<i>Lepidium bonariense</i>	Argentine Peppergrass	2
Plantae	Flora	Brassicaceae	1818	<i>Lepidium campestre</i>	Field Cress	1

Plantae	Flora	Brassicaceae	6643	<i>Lepidium pseudohyssopifolium</i>	Peppercress	2
Plantae	Flora	Brassicaceae	1839	<i>Raphanus raphanistrum</i> *	Wild Radish	1
Plantae	Flora	Brassicaceae	1841	<i>Rapistrum rugosum</i> *	Turnip Weed	2
Plantae	Flora	Brassicaceae	7382	<i>Rorippa palustris</i> *	Yellow Cress	1
Plantae	Flora	Brassicaceae	1853	<i>Sisymbrium irio</i> *	London Rocket	1
Plantae	Flora	Brassicaceae	1854	<i>Sisymbrium officinale</i> *	Hedge Mustard	2
Plantae	Flora	Brassicaceae	1855	<i>Sisymbrium orientale</i> *	Indian Hedge Mustard	1
Plantae	Flora	Cactaceae	1872	<i>Opuntia aurantiaca</i> *	Tiger Pear	2
Plantae	Flora	Cactaceae	1875	<i>Opuntia stricta</i> *	Common Prickly Pear, Smooth Pest Pear	1
Plantae	Flora	Cactaceae	7659	<i>Opuntia stricta</i> var. <i>stricta</i> *	Common Prickly Pear	4
Plantae	Flora	Campanulaceae	1929	<i>Wahlenbergia communis</i>	Tufted Bluebell	10
Plantae	Flora	Campanulaceae	1933	<i>Wahlenbergia gracilentia</i>	Annual Bluebell	1
Plantae	Flora	Campanulaceae	1934	<i>Wahlenbergia gracilis</i>	Sprawling Bluebell	1
Plantae	Flora	Campanulaceae	7314	<i>Wahlenbergia luteola</i>	Bluebell	1
Plantae	Flora	Campanulaceae	8735	<i>Wahlenbergia planiflora</i> subsp. <i>longipila</i>		1
Plantae	Flora	Capparaceae	1945	<i>Capparis mitchellii</i>	Native Orange	1
Plantae	Flora	Caprifoliaceae	1952	<i>Lonicera japonica</i> *	Japanese Honeysuckle	1
Plantae	Flora	Caryophyllaceae	1960	<i>Cerastium glomeratum</i> *	Mouse-ear Chickweed	2
Plantae	Flora	Caryophyllaceae	1974	<i>Paronychia brasiliensis</i> *	Chilean Whitlow Wort, Brazilian Whitlow	1
Plantae	Flora	Caryophyllaceae	7584	<i>Petrorhagia nanteuilii</i> *	Proliferous Pink	3
Plantae	Flora	Caryophyllaceae	1979	<i>Polycarpon tetraphyllum</i> *	Four-leaved Allseed	1
Plantae	Flora	Caryophyllaceae	1991	<i>Silene gallica</i> *	French Catchfly	1
Plantae	Flora	Caryophyllaceae	2000	<i>Spergularia marina</i>	Lesser Sea-spurrey	1
Plantae	Flora	Caryophyllaceae	2006	<i>Stellaria media</i> *	Common Chickweed	1
Plantae	Flora	Casuarinaceae	9006	<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	River Oak	P 2
Plantae	Flora	Celastraceae	2033	<i>Maytenus cunninghamii</i>	Yellow-berry Bush	1
Plantae	Flora	Chenopodiaceae	2070	<i>Atriplex semibaccata</i>	Creeping Saltbush	1
Plantae	Flora	Chenopodiaceae	2084	<i>Chenopodium album</i> *	Fat Hen	1
Plantae	Flora	Chenopodiaceae	2085	<i>Chenopodium ambrosioides</i> *	Mexican Tea	2
Plantae	Flora	Chenopodiaceae	2091	<i>Chenopodium desertorum</i>	Desert Goosefoot	1
Plantae	Flora	Chenopodiaceae	2112	<i>Einadia polygonoides</i>	Knotweed Goosefoot	4
Plantae	Flora	Chenopodiaceae	EINA	<i>Einadia</i> spp.		1
Plantae	Flora	Chenopodiaceae	2113	<i>Einadia trigonos</i>	Fishweed	1
Plantae	Flora	Chenopodiaceae	7909	<i>Einadia trigonos</i> subsp. <i>stellulata</i>		1
Plantae	Flora	Chenopodiaceae	2128	<i>Maireana enchylaenoides</i>	Wingless Fissure-weed	1
Plantae	Flora	Chenopodiaceae	2138	<i>Maireana microphylla</i>	Small-leaf Bluebush	3
Plantae	Flora	Chenopodiaceae	2160	<i>Rhagodia parabolica</i>		1
Plantae	Flora	Chenopodiaceae	7923	<i>Salsola kali</i> var. <i>kali</i>	Buckbush	4
Plantae	Flora	Chenopodiaceae	2185	<i>Sclerolaena muricata</i>	Black Rolypoly	1
Plantae	Flora	Clusiaceae	7240	<i>Hypericum gramineum</i>	Small St John's Wort	3
Plantae	Flora	Clusiaceae	2204	<i>Hypericum perforatum</i> *	St. Johns Wort	1
Plantae	Flora	Colchicaceae	3578	<i>Wurmbea biglandulosa</i>		2
Plantae	Flora	Commelinaceae	2209	<i>Commelina cyanea</i>	Native Wandering Jew	2
Plantae	Flora	Commelinaceae	10508	<i>Tradescantia fluminensis</i> *	Wandering Jew	1
Plantae	Flora	Commelinaceae	12262	<i>Tradescantia pallida</i> *	Purple Queen	2
Plantae	Flora	Convolvulaceae	2219	<i>Convolvulus arvensis</i> *	Field Bindweed	1

Plantae	Flora	Convolvulaceae	2220	<i>Convolvulus erubescens</i>	Pink Bindweed	9
Plantae	Flora	Convolvulaceae	11616	<i>Convolvulus graminetinus</i>		1
Plantae	Flora	Convolvulaceae	2222	<i>Dichondra repens</i>	Kidney Weed	3
Plantae	Flora	Convolvulaceae	8727	<i>Dichondra sp. A</i>	Kidney Weed	7
Plantae	Flora	Convolvulaceae	8278	<i>Evolvulus alsinoides var. decumbens</i>		1
Plantae	Flora	Convolvulaceae	2225	<i>Ipomoea cairica</i> *		1
Plantae	Flora	Crassulaceae	2242	<i>Crassula sieberiana</i>	Australian Stonecrop	3
Plantae	Flora	Crassulaceae	6840	<i>Sedum praealtum</i> *		1
Plantae	Flora	Cupressaceae	2279	<i>Callitris endlicheri</i>	Black Cypress Pine	1
Plantae	Flora	Cupressaceae	6379	<i>Callitris glaucophylla</i>	White Cypress Pine	5
Plantae	Flora	Cyperaceae	2307	<i>Bolboschoenus medianus</i>		1
Plantae	Flora	Cyperaceae	2313	<i>Carex breviculmis</i>		1
Plantae	Flora	Cyperaceae	7898	<i>Carex inomitata</i>		2
Plantae	Flora	Cyperaceae	2327	<i>Carex inversa</i>	Knob Sedge	4
Plantae	Flora	Cyperaceae	2366	<i>Cyperus exaltatus</i>		1
Plantae	Flora	Cyperaceae	2374	<i>Cyperus gracilis</i>	Slender Flat-sedge	5
Plantae	Flora	Cyperaceae	8483	<i>Cyperus polystachyos</i>		1
Plantae	Flora	Cyperaceae	2393	<i>Cyperus rotundus</i> *	Nutgrass	1
Plantae	Flora	Cyperaceae	7617	<i>Cyperus vaginatus</i>	Stiff Flat-sedge	2
Plantae	Flora	Cyperaceae	2421	<i>Eleocharis plana</i>	Flat Spike-sedge	1
Plantae	Flora	Cyperaceae	2514	<i>Scleria mackaviensis</i>		2
Plantae	Flora	Ericaceae	2646	<i>Melichrus urceolatus</i>	Urn Heath	1
Plantae	Flora	Euphorbiaceae	10564	<i>Adriana tomentosa var. tomentosa</i>		2
Plantae	Flora	Euphorbiaceae	2694	<i>Beyeria viscosa</i>	Sticky Wallaby Bush	1
Plantae	Flora	Euphorbiaceae	9193	<i>Chamaesyce dallachyana</i>		4
Plantae	Flora	Euphorbiaceae	8560	<i>Chamaesyce drummondii</i>	Caustic Weed	1
Plantae	Flora	Euphorbiaceae	12247	<i>Chamaesyce hyssopifolia</i> *		1
Plantae	Flora	Euphorbiaceae	9752	<i>Euphorbia davidii</i> *		1
Plantae	Flora	Euphorbiaceae	2721	<i>Euphorbia peplus</i> *	Petty Spurge	1
Plantae	Flora	Fabaceae (Caesalpinioideae)	8494	<i>Senna artemisioides subsp. zygophylla</i>		2
Plantae	Flora	Fabaceae (Caesalpinioideae)	6644	<i>Senna barclayana</i>	Smooth Senna	1
Plantae	Flora	Fabaceae (Caesalpinioideae)	8240	<i>Senna coronilloides</i>		1
Plantae	Flora	Fabaceae (Caesalpinioideae)	7377	<i>Senna pendula var. glabrata</i> *		1
Plantae	Flora	Fabaceae (Faboideae)	10674	<i>Cullen tenax</i>	Emu-foot	1
Plantae	Flora	Fabaceae (Faboideae)	2834	<i>Desmodium brachypodium</i>	Large Tick-trefoil	9
Plantae	Flora	Fabaceae (Faboideae)	2840	<i>Desmodium varians</i>	Slender Tick-trefoil	7
Plantae	Flora	Fabaceae (Faboideae)	2860	<i>Glycine clandestina</i>	Twining glycine	7
Plantae	Flora	Fabaceae (Faboideae)	8522	<i>Glycine latifolia</i>		1
Plantae	Flora	Fabaceae (Faboideae)	GLYC	<i>Glycine spp.</i>		1
Plantae	Flora	Fabaceae (Faboideae)	2861	<i>Glycine tabacina</i>	Variable Glycine	4
Plantae	Flora	Fabaceae (Faboideae)	7844	<i>Glycine tomentella</i>	Woolly Glycine	1
Plantae	Flora	Fabaceae (Faboideae)	2873	<i>Hardenbergia violacea</i>	False Sarsaparilla	1
Plantae	Flora	Fabaceae (Faboideae)	2875	<i>Hovea lanceolata</i>		2
Plantae	Flora	Fabaceae (Faboideae)	7544	<i>Indigofera adesmiifolia</i>	Tick Indigo	3
Plantae	Flora	Fabaceae (Faboideae)	2902	<i>Lathyrus latifolius</i> *	Perennial Pea	1
Plantae	Flora	Fabaceae (Faboideae)	2906	<i>Lotus australis</i>	Australian Trefoil	3
Plantae	Flora	Fabaceae (Faboideae)	2919	<i>Medicago lupulina</i> *	Black Medic	1
Plantae	Flora	Fabaceae	2920	<i>Medicago minima</i> *	Woolly Burr Medic	2

Plantae	Flora	(Fabaceae) Fabaceae	2921	<i>Medicago orbicularis</i>	*	Button Medic	1
Plantae	Flora	(Fabaceae) Fabaceae	2922	<i>Medicago polymorpha</i>	*	Burr Medic	2
Plantae	Flora	(Fabaceae) Fabaceae	2924	<i>Medicago sativa</i>	*	Lucerne	3
Plantae	Flora	(Fabaceae) Fabaceae	2927	<i>Melilotus albus</i>	*	Bokhara	1
Plantae	Flora	(Fabaceae) Fabaceae	2928	<i>Melilotus indicus</i>	*	Hexham Scent	1
Plantae	Flora	(Fabaceae) Fabaceae	7304	<i>Rhynchosia minima</i>			1
Plantae	Flora	(Fabaceae) Fabaceae	3041	<i>Swainsona galegifolia</i>		Smooth Darling Pea	3
Plantae	Flora	(Fabaceae) Fabaceae	8537	<i>Swainsona reticulata</i>		Kneed Swainson-pea	1
Plantae	Flora	(Fabaceae) Fabaceae	3063	<i>Templetonia stenophylla</i>		Leafy Templetonia	1
Plantae	Flora	(Fabaceae) Fabaceae	13054	<i>Tephrosia brachyodon</i> var. <i>brachyodon</i>			1
Plantae	Flora	(Fabaceae) Fabaceae	3072	<i>Trifolium angustifolium</i>	*	Narrow-leaved Clover	1
Plantae	Flora	(Fabaceae) Fabaceae	3073	<i>Trifolium arvense</i>	*	Haresfoot Clover	3
Plantae	Flora	(Fabaceae) Fabaceae	3074	<i>Trifolium campestre</i>	*	Hop Clover	1
Plantae	Flora	(Fabaceae) Fabaceae	3077	<i>Trifolium fragiferum</i>	*	Strawberry Clover	2
Plantae	Flora	(Fabaceae) Fabaceae	3079	<i>Trifolium glomeratum</i>	*	Clustered Clover	1
Plantae	Flora	(Fabaceae) Fabaceae	3085	<i>Trifolium repens</i>	*	White Clover	3
Plantae	Flora	(Fabaceae) Fabaceae	3089	<i>Trifolium subterraneum</i>	*	Subterranean Clover	1
Plantae	Flora	(Fabaceae) Fabaceae	3091	<i>Trifolium tomentosum</i>	*	Woolly Clover	1
Plantae	Flora	(Fabaceae) Fabaceae	3096	<i>Vicia monantha</i>	*	Square-stemmed Vetch	1
Plantae	Flora	(Fabaceae) Fabaceae	8904	<i>Vigna lanceolata</i> var. <i>lanceolata</i>			2
Plantae	Flora	(Fabaceae) Fabaceae	8269	<i>Acacia deanei</i> subsp. <i>deanei</i>		Deane's Wattle	3
Plantae	Flora	(Fabaceae) Fabaceae	3761	<i>Acacia decora</i>		Western Silver Wattle	2
Plantae	Flora	(Fabaceae) Fabaceae	3772	<i>Acacia falciformis</i>		Broad-leaved Hickory	1
Plantae	Flora	(Fabaceae) Fabaceae	12032	<i>Acacia homalophylla</i> <--> <i>melvillei</i>			2
Plantae	Flora	(Fabaceae) Fabaceae	3792	<i>Acacia implexa</i>		Hickory Wattle	1
Plantae	Flora	(Fabaceae) Fabaceae	3835	<i>Acacia neriifolia</i>		Silver Wattle	1
Plantae	Flora	(Fabaceae) Fabaceae	3845	<i>Acacia paradoxa</i>		Kangaroo Thorn	2
Plantae	Flora	(Fabaceae) Fabaceae	3853	<i>Acacia podalyriifolia</i>		Queensland Silver Wattle	1
Plantae	Flora	(Fabaceae) Fabaceae	3873	<i>Acacia saligna</i>	*	Golden Wreath Wattle	1
Plantae	Flora	(Fabaceae) Fabaceae	ACAC	<i>Acacia</i> spp.		Wattle	2
Plantae	Flora	(Fabaceae) Fabaceae	10823	<i>Neptunia gracilis</i> f. <i>gracilis</i>		Sensitive Plant	1
Plantae	Flora	(Fabaceae) Fabaceae	12157	<i>Vachellia farnesiana</i>		Mimosa Bush	1
Plantae	Flora	Fumariaceae	3124	<i>Fumaria bastardii</i>	*	Bastards Fumitory	1
Plantae	Flora	Fumariaceae	7396	<i>Fumaria capreolata</i> subsp. <i>capreolata</i>	*	Climbing Fumitory	2
Plantae	Flora	Gentianaceae	3133	<i>Centaurium tenuiflorum</i>	*	Branched Centaury, Slender centaury	2
Plantae	Flora	Geraniaceae	3141	<i>Erodium cicutarium</i>	*	Common Crowfoot	3
Plantae	Flora	Geraniaceae	3142	<i>Erodium crinitum</i>		Blue Crowfoot	2
Plantae	Flora	Geraniaceae	3148	<i>Geranium homeanum</i>			1
Plantae	Flora	Geraniaceae	10093	<i>Geranium molle</i> subsp. <i>molle</i>	*	Cranesbill Geranium	2
Plantae	Flora	Geraniaceae	3156	<i>Geranium solanderi</i>		Native Geranium	1
Plantae	Flora	Geraniaceae	8226	<i>Geranium solanderi</i> var. <i>solanderi</i>			4
Plantae	Flora	Geraniaceae	GERA	<i>Geranium</i> spp.	*		1
Plantae	Flora	Goodeniaceae	1863	<i>Brunonia australis</i>		Blue Pincushion	2

Plantae	Flora	Goodeniaceae	3175	<i>Goodenia bellidifolia</i>			1
Plantae	Flora	Goodeniaceae	3182	<i>Goodenia glabra</i>		Smooth Goodenia	3
Plantae	Flora	Goodeniaceae	3193	<i>Goodenia pinnatifida</i>		Scrambles Eggs	2
Plantae	Flora	Goodeniaceae	3216	<i>Velleia paradoxa</i>			1
Plantae	Flora	Haloragaceae	3254	<i>Haloragis serra</i>			2
Plantae	Flora	Iridaceae	10698	<i>Freesia hybrid</i>	*	Freesia	1
Plantae	Flora	Juncaceae	3316	<i>Juncus articulatus</i>	*	A Rush	1
Plantae	Flora	Juncaceae	JUNC	<i>Juncus spp.</i>		A Rush	2
Plantae	Flora	Juncaceae	3350	<i>Juncus usitatus</i>			2
Plantae	Flora	Juncaceae	3356	<i>Luzula densiflora</i>		Woodrush	1
Plantae	Flora	Juncaceae	3359	<i>Luzula meridionalis</i>			1
Plantae	Flora	Lamiaceae	3371	<i>Ajuga australis</i>		Austral Bugle	4
Plantae	Flora	Lamiaceae	3381	<i>Marrubium vulgare</i>	*	White Horehound	2
Plantae	Flora	Lamiaceae	3384	<i>Mentha diemenica</i>		Slender Mint	2
Plantae	Flora	Lamiaceae	3386	<i>Mentha pulegium</i>	*	Pennyroyal	1
Plantae	Flora	Lamiaceae	3387	<i>Mentha satereioides</i>		Native Pennyroyal	1
Plantae	Flora	Lamiaceae	3423	<i>Prostanthera ovalifolia</i>			1
Plantae	Flora	Lamiaceae	3445	<i>Salvia reflexa</i>	*	Mintweed	1
Plantae	Flora	Lamiaceae	3446	<i>Salvia verbenaca</i>	*	Vervain	2
Plantae	Flora	Lamiaceae	3447	<i>Scutellaria humilis</i>		Dwarf Skullcap	1
Plantae	Flora	Lamiaceae	3450	<i>Stachys arvensis</i>	*	Stagger Weed	1
Plantae	Flora	Linaceae	3583	<i>Linum marginale</i>		Native Flax	3
Plantae	Flora	Lobeliaceae	1922	<i>Pratia concolor</i>		Poison Pratia	1
Plantae	Flora	Lomandraceae	6302	<i>Lomandra filiformis</i>		Wattle Matt-rush	1
Plantae	Flora	Lomandraceae	6511	<i>Lomandra filiformis subsp. coriacea</i>		Wattle Matt-rush	1
Plantae	Flora	Lomandraceae	7931	<i>Lomandra filiformis subsp. filiformis</i>			1
Plantae	Flora	Lomandraceae	6307	<i>Lomandra leucocephala</i>		Woolly Mat-rush	2
Plantae	Flora	Lomandraceae	6308	<i>Lomandra longifolia</i>		Spiny-headed Mat-rush	6
Plantae	Flora	Lomandraceae	8802	<i>Lomandra multiflora subsp. multiflora</i>		Many-flowered Mat-rush	4
Plantae	Flora	Loranthaceae	6394	<i>Amyema miquelii</i>		Box Mistletoe	3
Plantae	Flora	Loranthaceae	3607	<i>Amyema pendula</i>			2
Plantae	Flora	Loranthaceae	3613	<i>Dendrophthoe vitellina</i>			1
Plantae	Flora	Loranthaceae	7910	<i>Lysiana subfalcata</i>			3
Plantae	Flora	Loranthaceae	3618	<i>Muellerina bidwillii</i>			1
Plantae	Flora	Loranthaceae	3620	<i>Muellerina eucalyptoides</i>			1
Plantae	Flora	Luzuriagaceae	6015	<i>Eustrephus latifolius</i>		Wombat Berry	5
Plantae	Flora	Malaceae	13195	<i>Cotoneaster coriaceus</i>	*		2
Plantae	Flora	Malaceae	5612	<i>Cotoneaster glaucophyllus</i>	*		5
Plantae	Flora	Malaceae	5614	<i>Cotoneaster pannosus</i>	*		3
Plantae	Flora	Malaceae	9939	<i>Photinia serratifolia</i>	*	Chinese Photinia	2
Plantae	Flora	Malaceae	5627	<i>Pyracantha angustifolia</i>	*	Orange Firethorn	2
Plantae	Flora	Malaceae	12465	<i>Pyracantha crenatoserrata</i>	*		1
Plantae	Flora	Malaceae	5628	<i>Pyracantha crenulata</i>	*		2
Plantae	Flora	Malvaceae	7296	<i>Hibiscus sturtii</i> var. <i>sturtii</i>		Hill Hibiscus	1
Plantae	Flora	Malvaceae	3657	<i>Malva parviflora</i>	*	Small-flowered Mallow	3
Plantae	Flora	Malvaceae	7206	<i>Malvastrum americanum</i>	*	Spiked Malvastrum	1
Plantae	Flora	Malvaceae	3664	<i>Sida corrugata</i>		Corrugated Sida	2
Plantae	Flora	Malvaceae	3666	<i>Sida cunninghamii</i>		Ridge Sida	3
Plantae	Flora	Malvaceae	3673	<i>Sida rhombifolia</i>	*	Paddy's Lucerne	1
Plantae	Flora	Meliaceae	3680	<i>Melia azedarach</i>		White Cedar	2
Plantae	Flora	Myoporaceae	8602	<i>Eremophila debilis</i>		Amulla	1
Plantae	Flora	Myoporaceae	3955	<i>Myoporum montanum</i>		Western Boobialla	1
Plantae	Flora	Myrsinaceae	5334	<i>Anagallis arvensis</i>	*	Scarlet Pimpernel	3
Plantae	Flora	Myrtaceae	3971	<i>Angophora floribunda</i>		Rough-barked Apple	4
Plantae	Flora	Myrtaceae	4019	<i>Callistemon viminalis</i>		Weeping Bottlebrush	1
Plantae	Flora	Myrtaceae	4039	<i>Eucalyptus albens</i>		White Box	22
Plantae	Flora	Myrtaceae	4057	<i>Eucalyptus blakelyi</i>		Blakely's Red Gum	7
Plantae	Flora	Myrtaceae	6360	<i>Eucalyptus camaldulensis</i>		River Red Gum	3
Plantae	Flora	Myrtaceae	8652	<i>Eucalyptus campanulata</i>		New England Blackbutt	1
Plantae	Flora	Myrtaceae	4078	<i>Eucalyptus dealbata</i>		Tumbledown Red Gum	1
Plantae	Flora	Myrtaceae	4120	<i>Eucalyptus macrorhyncha</i>		Red Stringybark	1
Plantae	Flora	Myrtaceae	7230	<i>Eucalyptus malacoxylon</i>		Moonbi Apple Box	1
Plantae	Flora	Myrtaceae	4125	<i>Eucalyptus melliodora</i>		Yellow Box	6
Plantae	Flora	Myrtaceae	4129	<i>Eucalyptus moluccana</i>		Grey Box	1
Plantae	Flora	Myrtaceae	10023	<i>Eucalyptus populnea subsp. bimbil</i>		Bimble Box	1
Plantae	Flora	Myrtaceae	4293	<i>Syzygium paniculatum</i>		Magenta Lilly Pilly	1
Plantae	Flora	Nandinaceae	9645	<i>Nandina domestica</i>	*	Japanese Sacred Bamboo	1

Plantae	Flora	Nyctaginaceae	6841	<i>Boerhavia dominii</i>		Tarvine	1
Plantae	Flora	Ochnaceae	4306	<i>Ochna serrulata</i>	*	Mickey Mouse Plant	1
Plantae	Flora	Oleaceae	12177	<i>Fraxinus angustifolia</i> <i>subsp. angustifolia</i>	*	Desert Ash	2
Plantae	Flora	Oleaceae	6398	<i>Jasminum lineare</i>		Desert Jasmine	3
Plantae	Flora	Oleaceae	4310	<i>Jasminum suavisissimum</i>			4
Plantae	Flora	Oleaceae	4312	<i>Ligustrum lucidum</i>	*	Large-leaved Privet	6
Plantae	Flora	Oleaceae	4313	<i>Ligustrum sinense</i>	*	Small-leaved Privet	1
Plantae	Flora	Oleaceae	4319	<i>Notelaea microcarpa</i>		Native Olive	3
Plantae	Flora	Oleaceae	6695	<i>Notelaea microcarpa</i> var. <i>microcarpa</i>			12
Plantae	Flora	Oleaceae	11220	<i>Olea europaea subsp.</i> <i>cuspidata</i>	*	African Olive	2
Plantae	Flora	Oleaceae	7688	<i>Olea europaea subsp.</i> <i>europaea</i>	*	Olive	1
Plantae	Flora	Onagraceae	7952	<i>Epilobium billardierianum</i> <i>subsp. cinereum</i>			2
Plantae	Flora	Onagraceae	4339	<i>Oenothera affinis</i>	*		1
Plantae	Flora	Orchidaceae	4560	<i>Pterostylis mutica</i>		Midget Greenhood	P 1
Plantae	Flora	Oxalidaceae	4610	<i>Oxalis bowiei</i>	*		1
Plantae	Flora	Oxalidaceae	4612	<i>Oxalis chnoodes</i>			4
Plantae	Flora	Oxalidaceae	4615	<i>Oxalis exilis</i>			1
Plantae	Flora	Oxalidaceae	4622	<i>Oxalis pes-caprae</i>	*	Soursob	1
Plantae	Flora	Oxalidaceae	4624	<i>Oxalis radicata</i>			2
Plantae	Flora	Papaveraceae	7115	<i>Argemone ochroleuca</i> <i>subsp. ochroleuca</i>	*	Mexican Poppy	1
Plantae	Flora	Papaveraceae	4632	<i>Eschscholzia californica</i>	*	California Poppy	1
Plantae	Flora	Papaveraceae	4638	<i>Papaver hybridum</i>	*	Rough Poppy	2
Plantae	Flora	Papaveraceae	4640	<i>Papaver somniferum</i>	*	Opium Poppy	1
Plantae	Flora	Papaveraceae	9647	<i>Papaver somniferum</i> <i>subsp. setigerum</i>	*		1
Plantae	Flora	Phormiaceae	3542	<i>Dianella revoluta</i>		Blueberry Lily	2
Plantae	Flora	Phyllanthaceae	2695	<i>Breynia oblongifolia</i>		Coffee Bush	1
Plantae	Flora	Phyllanthaceae	2750	<i>Phyllanthus</i> <i>subcrenulatus</i>			4
Plantae	Flora	Phyllanthaceae	12969	<i>Phyllanthus virgatus</i> <i>complex</i>			1
Plantae	Flora	Pinaceae	4661	<i>Pinus radiata</i>	*	Radiata Pine	1
Plantae	Flora	Pittosporaceae	4674	<i>Bursaria spinosa</i>		Native Blackthorn	9
Plantae	Flora	Pittosporaceae	11018	<i>Bursaria spinosa subsp.</i> <i>spinosa</i>		Native Blackthorn	3
Plantae	Flora	Plantaginaceae	4691	<i>Plantago debilis</i>		Shade Plantain	6
Plantae	Flora	Plantaginaceae	4699	<i>Plantago lanceolata</i>	*	Lamb's Tongues	5
Plantae	Flora	Plantaginaceae	6000	<i>Veronica anagallis-</i> <i>aquatica</i>	*	Blue Water-speedwell	1
Plantae	Flora	Plantaginaceae	6002	<i>Veronica arvensis</i>	*	Wall Speedwell	1
Plantae	Flora	Plantaginaceae	6008	<i>Veronica persica</i>	*	Creeping Speedwell	1
Plantae	Flora	Plumbaginaceae	11674	<i>Plumbago auriculata</i>	*	Cape leadwot	1
Plantae	Flora	Poaceae	13924	<i>Amelichloa brachychaeta</i>	*	Espartillo	1
Plantae	Flora	Poaceae	6713	<i>Aristida latifolia</i>		Featherop Wiregrass	2
Plantae	Flora	Poaceae	4762	<i>Aristida leptopoda</i>		White Speargrass	2
Plantae	Flora	Poaceae	4767	<i>Aristida personata</i>			2
Plantae	Flora	Poaceae	4770	<i>Aristida ramosa</i>		Purple Wiregrass	13
Plantae	Flora	Poaceae	4773	<i>Aristida vagans</i>		Threawn Speargrass	1
Plantae	Flora	Poaceae	4777	<i>Arundo donax</i>	*	Giant Reed	1
Plantae	Flora	Poaceae	10384	<i>Austrostipa aristiglumis</i>		Plains Grass	4
Plantae	Flora	Poaceae	10395	<i>Austrostipa densiflora</i>		Foxtail Speargrass	1
Plantae	Flora	Poaceae	9918	<i>Austrostipa ramosissima</i>		Stout Bamboo Grass	1
Plantae	Flora	Poaceae	10377	<i>Austrostipa scabra</i>		Speargrass	1
Plantae	Flora	Poaceae	10378	<i>Austrostipa scabra</i> <i>subsp. scabra</i>		Rough Speargrass	3
Plantae	Flora	Poaceae	10382	<i>Austrostipa setacea</i>		Corkscrew Grass	1
Plantae	Flora	Poaceae	10371	<i>Austrostipa verticillata</i>		Slender Bamboo Grass	4
Plantae	Flora	Poaceae	4781	<i>Avena ludoviciana</i>	*	Ludo Wild Oats	1
Plantae	Flora	Poaceae	4782	<i>Avena sativa</i>	*	Oats	1
Plantae	Flora	Poaceae	AVEN	<i>Avena spp.</i>	*	Oats	1
Plantae	Flora	Poaceae	11194	<i>Axonopus fissifolius</i>	*	Narrow-leaved Carpet Grass	1
Plantae	Flora	Poaceae	4787	<i>Bothriochloa biloba</i>		Lobed Bluegrass	1
Plantae	Flora	Poaceae	7559	<i>Bothriochloa decipiens</i>		Pitted Bluegrass	3



				<i>var. decipiens</i>					
Plantae	Flora	Poaceae	4790	<i>Bothriochloa macra</i>			Red Grass		4
Plantae	Flora	Poaceae	4800	<i>Briza maxima</i>	*		Quaking Grass		1
Plantae	Flora	Poaceae	4801	<i>Briza minor</i>	*		Shivery Grass		1
Plantae	Flora	Poaceae	7813	<i>Bromus catharticus</i>	*		Praire Grass		4
Plantae	Flora	Poaceae	4811	<i>Bromus molliformis</i>	*		Soft Brome		1
Plantae	Flora	Poaceae	4813	<i>Bromus rubens</i>	*		Red Brome		1
Plantae	Flora	Poaceae	4822	<i>Catapodium rigidum</i>	*		Rigid Fescue		1
Plantae	Flora	Poaceae	4831	<i>Chloris gayana</i>	*		Rhodes Grass		1
Plantae	Flora	Poaceae	4833	<i>Chloris truncata</i>			Windmill Grass		9
Plantae	Flora	Poaceae	4834	<i>Chloris ventricosa</i>			Tall Chloris		6
Plantae	Flora	Poaceae	6655	<i>Chloris virgata</i>	*		Feathertop Rhodes Grass		5
Plantae	Flora	Poaceae	4841	<i>Cymbopogon refractus</i>			Barbed Wire Grass		6
Plantae	Flora	Poaceae	6540	<i>Cynodon dactylon</i>			Common Couch		6
Plantae	Flora	Poaceae	7485	<i>Dichanthium sericeum</i>			Queensland Bluegrass		1
Plantae	Flora	Poaceae	7645	<i>Dichanthium sericeum</i> <i>subsp. sericeum</i>			Queensland Bluegrass		4
Plantae	Flora	Poaceae	4895	<i>Dichanthium setosum</i>			Bluegrass	V,P	3
Plantae	Flora	Poaceae	4898	<i>Dichelachne micrantha</i>			Shorthair Plumegrass	V	4
Plantae	Flora	Poaceae	6857	<i>Digitaria brownii</i>			Cotton Panic Grass		4
Plantae	Flora	Poaceae	6554	<i>Digitaria ciliaris</i>	*		Summer Grass		1
Plantae	Flora	Poaceae	4907	<i>Digitaria divaricatissima</i>			Umbrella Grass		3
Plantae	Flora	Poaceae	6937	<i>Digitaria sanguinalis</i>	*		Crab Grass		1
Plantae	Flora	Poaceae	7607	<i>Echinochloa colona</i>			Awnless Barnyard Grass		1
Plantae	Flora	Poaceae	4923	<i>Echinochloa crus-galli</i>	*		Barnyard Grass		2
Plantae	Flora	Poaceae	4931	<i>Echinopogon intermedius</i>			Erect Hedgehog Grass		1
Plantae	Flora	Poaceae	4937	<i>Ehrharta erecta</i>	*		Panic Veldtgrass		1
Plantae	Flora	Poaceae	4940	<i>Eleusine tristachya</i>	*		Goose Grass		4
Plantae	Flora	Poaceae	8796	<i>Elymus scaber</i>			Common Wheatgrass		3
Plantae	Flora	Poaceae	4945	<i>Enneapogon nigricans</i>			Niggerheads		1
Plantae	Flora	Poaceae	6721	<i>Enteropogon acicularis</i>			Curly Windmill Grass		1
Plantae	Flora	Poaceae	11647	<i>Eragrostis alveiformis</i>					2
Plantae	Flora	Poaceae	6387	<i>Eragrostis cilianensis</i>	*		Stinkgrass		4
Plantae	Flora	Poaceae	4952	<i>Eragrostis curvula</i>	*		African Lovegrass		1
Plantae	Flora	Poaceae	4960	<i>Eragrostis leptostachya</i>			Paddock Lovegrass		1
Plantae	Flora	Poaceae	4967	<i>Eragrostis parviflora</i>			Weeping Lovegrass		2
Plantae	Flora	Poaceae	ERAG	<i>Eragrostis spp.</i>	*		A Lovegrass		1
Plantae	Flora	Poaceae	7335	<i>Eriochloa pseudoacrotricha</i>			Early Spring Grass		2
Plantae	Flora	Poaceae	4993	<i>Festuca pratensis</i>	*		Meadow Fescue		1
Plantae	Flora	Poaceae	6601	<i>Heteropogon contortus</i>			Bunch Speargrass		1
Plantae	Flora	Poaceae	5012	<i>Hordeum leporinum</i>	*		Barley Grass		3
Plantae	Flora	Poaceae	5016	<i>Hyparrhenia hirta</i>	*		Coolatai Grass		2
Plantae	Flora	Poaceae	11388	<i>Lachnagrostis filiformis</i>					1
Plantae	Flora	Poaceae	5023	<i>Lamarckia aurea</i>	*		Goldentop		1
Plantae	Flora	Poaceae	14476	<i>Leptochloa asthenes</i>	*				1
Plantae	Flora	Poaceae	5033	<i>Lolium rigidum</i>	*		Wimmera Ryegrass		2
Plantae	Flora	Poaceae	5037	<i>Microlaena stipoides</i>			Weeping Grass		1
Plantae	Flora	Poaceae	7707	<i>Microlaena stipoides var. stipoides</i>			Weeping Grass		1
Plantae	Flora	Poaceae	13451	<i>Nassella tenuissima</i>	*				2
Plantae	Flora	Poaceae	6395	<i>Panicum decompositum</i>			Native Millet		1
Plantae	Flora	Poaceae	5055	<i>Panicum effusum</i>			Hairy Panic		1
Plantae	Flora	Poaceae	5066	<i>Panicum simile</i>			Two-colour Panic		2
Plantae	Flora	Poaceae	PANI	<i>Panicum spp.</i>			Panicum		1
Plantae	Flora	Poaceae	5073	<i>Paspalidium aversum</i>			Bent Summer Grass		2
Plantae	Flora	Poaceae	7172	<i>Paspalidium distans</i>					2
Plantae	Flora	Poaceae	5081	<i>Paspalidium gracile</i>			Slender Panic		1
Plantae	Flora	Poaceae	5086	<i>Paspalum dilatatum</i>	*		Paspalum		2
Plantae	Flora	Poaceae	5096	<i>Pennisetum clandestinum</i>	*		Kikuyu Grass		3
Plantae	Flora	Poaceae	5100	<i>Pennisetum villosum</i>	*		Feathertop		1
Plantae	Flora	Poaceae	5113	<i>Phragmites australis</i>			Common Reed		1
Plantae	Flora	Poaceae	5121	<i>Poa annua</i>	*		Winter Grass		3
Plantae	Flora	Poaceae	11196	<i>Poa labillardierei var. labillardierei</i>			Tussock		3
Plantae	Flora	Poaceae	5141	<i>Poa sieberiana</i>			Snowgrass		6
Plantae	Flora	Poaceae	7857	<i>Rostraria pumila</i>	*		Roughtail		1
Plantae	Flora	Poaceae	14304	<i>Rytidosperma bipartitum</i>			Wallaby Grass		6
Plantae	Flora	Poaceae	14305	<i>Rytidosperma caespitosum</i>			Ringed Wallaby Grass		1
Plantae	Flora	Poaceae	14309	<i>Rytidosperma fulvum</i>			Wallaby Grass		1
Plantae	Flora	Poaceae	14312	<i>Rytidosperma longifolium</i>			Long-leaved Wallaby Grass		4
Plantae	Flora	Poaceae	14313	<i>Rytidosperma monticola</i>			Mountain Wallaby Grass		2
Plantae	Flora	Poaceae	14317	<i>Rytidosperma</i>			Wallaby Grass		2

Plantae	Flora	Poaceae	14318	<i>racemosum</i> <i>Rytidosperma</i> <i>racemosum</i> var. <i>racemosum</i>	Wallaby Grass				3
Plantae	Flora	Poaceae	14320	<i>Rytidosperma</i> <i>richardsonii</i>	Straw Wallaby-grass				2
Plantae	Flora	Poaceae	14322	<i>Rytidosperma setaceum</i>	Small-flowered Wallaby-grass				1
Plantae	Flora	Poaceae	RYTI	<i>Rytidosperma</i> spp.					4
Plantae	Flora	Poaceae	14323	<i>Rytidosperma tenuius</i>	A Wallaby Grass				2
Plantae	Flora	Poaceae	13468	<i>Setaria parviflora</i> *					2
Plantae	Flora	Poaceae	5171	<i>Sorghum bicolor</i> *	Sorghum				2
Plantae	Flora	Poaceae	5172	<i>Sorghum halepense</i> *	Johnson Grass				1
Plantae	Flora	Poaceae	5173	<i>Sorghum leiocladum</i>	Wild Sorghum				2
Plantae	Flora	Poaceae	SORG	<i>Sorghum</i> spp. *					4
Plantae	Flora	Poaceae	5176	<i>Sporobolus africanus</i> *	Parramatta Grass				1
Plantae	Flora	Poaceae	5179	<i>Sporobolus creber</i>	Slender Rat's Tail Grass				1
Plantae	Flora	Poaceae	5181	<i>Sporobolus elongatus</i>	Slender Rat's Tail Grass				3
Plantae	Flora	Poaceae	5219	<i>Themeda australis</i>	Kangaroo Grass				3
Plantae	Flora	Poaceae	5224	<i>Tragus australianus</i>	Small Burrgrass				1
Plantae	Flora	Poaceae	5229	<i>Tripogon loliiformis</i>	Fiveminute Grass				1
Plantae	Flora	Poaceae	5237	<i>Urochloa panicoides</i> *	Urochloa Grass				6
Plantae	Flora	Poaceae	5242	<i>Vulpia myuros</i> *	Rat's Tail Fescue				1
Plantae	Flora	Polygonaceae	5265	<i>Acetosella vulgaris</i> *	Sheep Sorrel				1
Plantae	Flora	Polygonaceae	5266	<i>Emex australis</i> *	Spiny Emex				1
Plantae	Flora	Polygonaceae	5268	<i>Fallopia convolvulus</i> *	Black Bindweed				1
Plantae	Flora	Polygonaceae	5282	<i>Persicaria lapathifolia</i>	Pale Knotweed				1
Plantae	Flora	Polygonaceae	5288	<i>Polygonum aviculare</i> *	Wireweed				4
Plantae	Flora	Polygonaceae	5296	<i>Rumex brownii</i>	Swamp Dock				3
Plantae	Flora	Polygonaceae	5297	<i>Rumex conglomeratus</i> *	Clustered Dock				1
Plantae	Flora	Polygonaceae	5298	<i>Rumex crispus</i> *	Curled Dock				1
Plantae	Flora	Polygonaceae	RUME	<i>Rumex</i> spp. *	Dock				1
Plantae	Flora	Portulacaceae	5324	<i>Portulaca oleracea</i>	Pigweed				2
Plantae	Flora	Proteaceae	5396	<i>Grevillea robusta</i>	Silky Oak				1
Plantae	Flora	Proteaceae	9759	<i>Hakea leucoptera</i> subsp. <i>sericipes</i>					1
Plantae	Flora	Ranunculaceae	13519	<i>Clematis decipiens</i>					2
Plantae	Flora	Ranunculaceae	5495	<i>Clematis glycinoides</i>	Headache Vine				7
Plantae	Flora	Ranunculaceae	6903	<i>Clematis glycinoides</i> var. <i>glycinoides</i>					1
Plantae	Flora	Ranunculaceae	5496	<i>Clematis microphylla</i>	Small-leaved Clematis				2
Plantae	Flora	Ranunculaceae	8811	<i>Ranunculus sessiliflorus</i> var. <i>sessiliflorus</i>					1
Plantae	Flora	Resedaceae	5529	<i>Reseda lutea</i> *	Cut-leaved Mignonette				1
Plantae	Flora	Rosaceae	5609	<i>Aphanes australiana</i>	Australian Pert				1
Plantae	Flora	Rosaceae	12184	<i>Rosa luciae</i> *					2
Plantae	Flora	Rosaceae	5635	<i>Rosa rubiginosa</i> *	Sweet Briar				1
Plantae	Flora	Rosaceae	5642	<i>Rubus parvifolius</i>	Native Raspberry				2
Plantae	Flora	Rubiaceae	5653	<i>Asperula conferta</i>	Common Woodruff				6
Plantae	Flora	Rubiaceae	5679	<i>Galium aparine</i> *	Goosegrass				1
Plantae	Flora	Rubiaceae	5682	<i>Galium ciliare</i>					1
Plantae	Flora	Rubiaceae	5686	<i>Galium migrans</i>					6
Plantae	Flora	Rubiaceae	5687	<i>Galium murale</i> *	Small Bedstraw				1
Plantae	Flora	Rubiaceae	5699	<i>Opercularia hispida</i>	Hairy Stinkweed				1
Plantae	Flora	Rubiaceae	11942	<i>Psydrax odorata</i>	Shiny-leaved Canthium				5
Plantae	Flora	Salicaceae	5848	<i>Populus alba</i> *	White Poplar				2
Plantae	Flora	Salicaceae	5851	<i>Salix babylonica</i> *	Weeping Willow				1
Plantae	Flora	Salicaceae	10652	<i>Salix fragilis</i> var. <i>fragilis</i> *	Crack Willow				1
Plantae	Flora	Salicaceae	10663	<i>Salix x sepulcralis</i> var. <i>sepulcralis</i> *	Weeping Willow				1
Plantae	Flora	Santalaceae	5860	<i>Exocarpos</i> <i>cupressiformis</i>	Cherry Ballart				1
Plantae	Flora	Sapindaceae	5873	<i>Alectryon forsythii</i>					1
Plantae	Flora	Sapindaceae	5882	<i>Cardiospermum</i> <i>grandiflorum</i> *	Balloon Vine				2
Plantae	Flora	Sapindaceae	7690	<i>Dodonaea viscosa</i> subsp. <i>angustifolia</i>					5
Plantae	Flora	Scrophulariaceae	9736	<i>Cymbalaria muralis</i> subsp. <i>muralis</i> *	Ivy-leaved Toadflax				1
Plantae	Flora	Scrophulariaceae	10222	<i>Euphrasia ruptura</i>		E4,P	X		1
Plantae	Flora	Scrophulariaceae	5974	<i>Linaria arvensis</i> *					3
Plantae	Flora	Scrophulariaceae	7625	<i>Verbascum thapsus</i> subsp. <i>thapsus</i> *	Great Mullein				1
Plantae	Flora	Scrophulariaceae	5999	<i>Verbascum virgatum</i> *	Twiggy Mullein				1

Plantae	Flora	Solanaceae	6027	<i>Cestrum parqui</i>	*	Green Cestrum	6
Plantae	Flora	Solanaceae	6030	<i>Datura ferox</i>	*	Fierce Thornapple	1
Plantae	Flora	Solanaceae	6033	<i>Datura stramonium</i>	*	Common Thornapple	3
Plantae	Flora	Solanaceae	6040	<i>Lycium ferocissimum</i>	*	African Boxthorn	2
Plantae	Flora	Solanaceae	6045	<i>Nicotiana glauca</i>	*	Tree Tobacco	1
Plantae	Flora	Solanaceae	12295	<i>Solanum parvifolium</i> <i>subsp. parvifolium</i>		Nightshade	2
Plantae	Flora	Stackhousiaceae	6120	<i>Stackhousia monogyna</i>		Creamy Candles	1
Plantae	Flora	Stackhousiaceae	6125	<i>Stackhousia viminea</i>		Slender Stackhousia	2
Plantae	Flora	Sterculiaceae	6128	<i>Brachychiton populneus</i>		Kurrajong	2
Plantae	Flora	Sterculiaceae	8961	<i>Brachychiton populneus</i> <i>subsp. populneus</i>			1
Plantae	Flora	Thymelaeaceae	6774	<i>Pimelea curviflora</i> var. <i>divergens</i>			2
Plantae	Flora	Thymelaeaceae	6871	<i>Pimelea micrantha</i>		Silky Rice-flower	1
Plantae	Flora	Thymelaeaceae	6192	<i>Pimelea strigosa</i>			1
Plantae	Flora	Typhaceae	7224	<i>Typha domingensis</i>		Narrow-leaved Cumbungi	2
Plantae	Flora	Ulmaceae	6220	<i>Celtis australis</i>	*		1
Plantae	Flora	Urticaceae	6232	<i>Parietaria judaica</i>	*	Pellitory	1
Plantae	Flora	Urticaceae	6237	<i>Urtica incisa</i>		Stinging Nettle	4
Plantae	Flora	Verbenaceae	12422	<i>Glandularia aristigera</i>	*	Mayne's Pest	2
Plantae	Flora	Verbenaceae	6249	<i>Lantana montevidensis</i>	*	Trailing Lantana	1
Plantae	Flora	Verbenaceae	11187	<i>Verbena africana</i>	*		14
Plantae	Flora	Verbenaceae	6256	<i>Verbena bonariensis</i>	*	Purpletop	4
Plantae	Flora	Verbenaceae	10716	<i>Verbena caracasana</i>	*	Shore Verbain	2
Plantae	Flora	Verbenaceae	10717	<i>Verbena gaudichaudii</i>		Verbena	1
Plantae	Flora	Verbenaceae	10718	<i>Verbena incompta</i>	*		1
Plantae	Flora	Verbenaceae	6259	<i>Verbena officinalis</i>	*	Common Verbena	1
Plantae	Flora	Verbenaceae	10720	<i>Verbena quadrangularis</i>	*		3
Plantae	Flora	Verbenaceae	11406	<i>Verbena rigida</i> var. <i>rigida</i>	*	Veined Verbena	1
Plantae	Flora	Violaceae	6274	<i>Viola odorata</i>	*	Sweet Violet	2
Plantae	Flora	Vitaceae	6281	<i>Cayratia clematidea</i>		Native Grape	2
Plantae	Flora	Vitaceae	14093	<i>Clematicissus opaca</i>		Pepper Vine	1
Plantae	Flora	Zamiaceae	6336	<i>Macrozamia stenomera</i>			4
Plantae	Flora	Zygophyllaceae	9230	<i>Tribulus micrococcus</i>		Spineless Caltrop	3

P



EPBC Act Protected Matters Report

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

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

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 16/12/13 08:22:50

[Summary](#)

[Details](#)

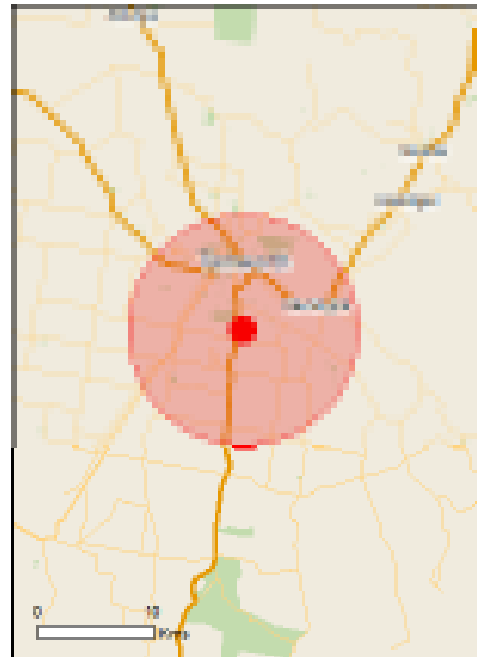
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

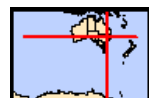
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

[Buffer: 10.0Km](#)



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	22
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

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

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As [heritage values](#) of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

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

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

Commonwealth Land:	11
Commonwealth Heritage Places:	1
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

Place on the RNE:	17
State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	34
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [\[Resource Information \]](#)

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

Name	Status	Type of Presence
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
New England Peppermint (<i>Eucalyptus nova-anglica</i>) Grassy Woodlands	Critically Endangered	Community may occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area

Listed Threatened Species [\[Resource Information \]](#)

Name	Status	Type of Presence
Birds		
Anthochaera phrygia		
Regent Honeyeater [82338]	Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Geophaps scripta scripta		
Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor		
Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Maccullochella peelii		
Murray Cod [66633]	Vulnerable	Species or species

Name	Status	Type of Presence habitat may occur within area
Frogs		
Litoria booroolongensis Booroolong Frog [1844]	Endangered	Species or species habitat likely to occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Nyctophilus corbeni South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Plants		
Bothriochloa biloba Lobed Blue-grass [3153]	Vulnerable	Species or species habitat likely to occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
Tylophora linearis [55231]	Endangered	Species or species habitat may occur within area
Reptiles		
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may occur within area
Uvidicolus sphyrurus Border Thick-tailed Gecko, Granite Belt Thick- tailed Gecko [84578]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species

[Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus		
White-throated Needletail [682]		Species or species habitat likely to occur within area
Merops ornatus		
Rainbow Bee-eater [670]		Species or species habitat may occur within area
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat likely to occur within area
Xanthomyza phrygia		
Regent Honeyeater [430]	Endangered*	Species or species habitat known to occur within area
Migratory Wetlands Species		
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato)		
Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land		[Resource Information]
The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.		
Name		
Commonwealth Land - Australian & Overseas Telecommunications Corporation		
Commonwealth Land - Australian Postal Commission		
Commonwealth Land - Australian Telecommunications Commission		
Commonwealth Land - Commonwealth Bank of Australia		
Commonwealth Land - Commonwealth Trading Bank of Australia		
Commonwealth Land - Defence Housing Authority		
Commonwealth Land - Defence Service Homes Corporation		
Commonwealth Land - Director of Defence Service Homes		
Commonwealth Land - Director of War Service Homes		
Commonwealth Land - Telstra Corporation Limited		
Defence - TAMWORTH GRES DEPOT ; BEERSHEBA BARRACKS-TAMWORTH		
Commonwealth Heritage Places		[Resource Information]
Name	State	Status

Name	State	Status
Historic		
Tamworth Post Office	NSW	Listed place
Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Places on the RNE

[[Resource Information](#)]

Note that not all Indigenous sites may be listed.

Name	State	Status
Natural		
Oxley Park	NSW	Registered
Historic		
Church of England School and School Masters Residence (former)	NSW	Indicative Place
Power House Monument	NSW	Indicative Place
Tamworth Gaol (former)	NSW	Indicative Place
ANZ Bank	NSW	Registered
Calala Cottage	NSW	Registered
Carinya Garden	NSW	Registered
Dominican Convent Group	NSW	Registered
Dominican Convent and Chapel	NSW	Registered
Lands Office	NSW	Registered
Mechanics Institute (former)	NSW	Registered
Peel River Rail Bridge	NSW	Registered
St Nicholas Catholic Church	NSW	Registered
Tamworth Council Chambers and Town Hall (former)	NSW	Registered
Tamworth Hospital (Main Block only)	NSW	Registered
Tamworth Post Office	NSW	Registered
Tamworth Primary School	NSW	Registered

Invasive Species

[[Resource Information](#)]

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

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Mammals		
Bos taurus		
Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris		
Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus		
Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer		
Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis		
Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus		
House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus		
Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus		
Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa		
Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes		
Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia		
Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus		
Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides		
Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus plumosus		
Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cytisus scoparius		
Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati		
Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Lycium ferocissimum		
African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Nassella neesiana		
Chilean Needle grass [67699]		Species or species habitat likely to occur

Name	Status	Type of Presence
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		within area Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Protasparagus plumosus Climbing Asparagus-fern, Ferny Asparagus [11747]		Species or species habitat likely to occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area

Coordinates

-31.1393 150.92943

Caveat

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

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

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

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

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

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

- migratory and
- marine

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

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

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

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

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

Acknowledgements

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

- [-Department of Environment, Climate Change and Water, New South Wales](#)
- [-Department of Sustainability and Environment, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment and Natural Resources, South Australia](#)
- [-Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [-Environmental and Resource Management, Queensland](#)
- [-Department of Environment and Conservation, Western Australia](#)
- [-Department of the Environment, Climate Change, Energy and Water](#)
- [-Birds Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-SA Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [-State Forests of NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

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

Please feel free to provide feedback via the [Contact Us](#) page.

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Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111



Appendix E Presence Likelihood Determination

THREATENED FLORA SPECIES & COMMUNITIES

Threatened Flora Species and Communities

SPECIES / COMMUNITY	LISTING	HABITAT DESCRIPTION	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Bothriochloa Bilboa</i> – Lobed Blue-grass	SPECIES De-listed 14/02/2013	Grows in cleared Eucalypt forests and relict grassland, often dominated by Purple Wiregrass (<i>Aristida ramosa</i>), Red-leg Grass (<i>Bothriochloa macra</i>), Red Grass (<i>B. decipiens</i>), Queensland Bluegrass (<i>Dicanthium sericeum</i>) or <i>Austrostipa aristiglumis</i> . ^{DOTE}	N/A	N/A
<i>Dicanthium setosum</i> - Bluegrass	EPBC Vulnerable TSC Vulnerable	Associated with heavy basaltic black soils and stony red-brown hard-setting loam clay with clay subsoil. Found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture. ^{DOTE}	Possible – Not observed during site assessment, however it is known to occur within close proximity to the subject site in similar habitats.	Possible – May occur within riparian areas (although not observed). Assessment of Significance Required.
<i>Euphrasia arguta</i>	EPBC Critically Endangered TSC Extinct	The <i>Euphrasia arguta</i> populations occur in eucalypt forest with a mixed grass and shrub understorey. ^{DOTE}	Unlikely – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite, not observed during assessment.
<i>Euphrasia ruptura</i>	TSC Extinct	<i>Euphrasia ruptura</i> was known only from a single collection in Tamworth, NSW in 1904. The species is now presumed to be extinct. ^{OEH}	Unlikely – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite, not observed during assessment.

SPECIES / COMMUNITY	LISTING	HABITAT DESCRIPTION	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Picris evae</i> - Hawkweed	EPBC Vulnerable TSC Vulnerable	Occurs in <i>Eucalyptus</i> open woodland with a grassy understorey composed of <i>Dichanthium</i> spp. Upper stratum species include <i>Eucalyptus melliodora</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>E. albens</i> , <i>Angophora subvelutina</i> , <i>Allocasuarina torulosa</i> , and <i>Casuarina cunninghamiana</i> (Holzapfel, 1994). Collections have been made along roadsides and in cultivated areas, such as paddocks, on black, dark grey or red-brown soils, reddish clay-loam or medium clay soils DOTE	Possible – Not observed during site assessment, however it is known to occur within close proximity to the subject site in similar habitats.	Possible – May occur within subject site (although not observed). Assessment of Significance Required.
<i>Syzygium paniculatum</i> – Magenta Lilly Pilly	TSC Endangered, EPBC Vulnerable	This species is found in rainforest on sandy soils or stabilised Quaternary sand dunes at low altitudes in coastal areas. DOTE	Unlikely – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite, not observed during assessment.
<i>Thesium australe</i> — Austral Toadflax, Toadflax	EPBC Vulnerable TSC Vulnerable	Occurs on fertile soils in mainland areas. DOTE	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite, not observed during assessment.
<i>Tylophora linearis</i>	EPBC Endangered TSC Vulnerable	Grows in dry scrub, open forest and woodlands associated with <i>Melaleuca uncinata</i> , <i>Eucalyptus fibrosa</i> , <i>E. sideroxylon</i> , <i>E. albens</i> , <i>Callitris endlicheri</i> , <i>C. glaucophylla</i> , <i>Allocasuarina luemannii</i> , <i>Acacia hakeoides</i> , <i>A. lineata</i> , <i>Myoporum</i> spp., and <i>Casuarina</i> spp. DOTE	Possible – Not observed during site assessment, however it is known to occur within close proximity to the subject site in similar habitats.	Possible – May occur within riparian areas (although not observed). Assessment of Significance Required.

SPECIES / COMMUNITY	LISTING	HABITAT DESCRIPTION	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Natural Grasslands on basalt and fine-textured alluvial plains of northern New South Wales and Southern Queensland</i>	EPBC Critically Endangered	Tree canopy typically absent with a very minor shrub layer. Temperate grasslands are typically dominated by tussock grasses in the genera <i>Austrodanthonia</i> , <i>Austrostipa</i> , <i>Bothriochloa</i> , <i>Chloris</i> , <i>Enterpogon</i> or <i>Themeda</i> . Representatives of these genera, as well as temperate grassland forbs are present to some extent throughout the ecological community. DOTE	Negligible – Not observed during site assessment.	Negligible – Does not occur onsite.
<i>White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i>	EPBC Critically Endangered TSC Endangered	Woodland or derived grassland with a ground layer of native tussock grasses and herbs, and a sparse, scattered shrub layer. White box (<i>Eucalyptus albens</i>), yellow box (<i>E. melliodora</i>) or Blakeley's Red Gum (<i>E. blakleyi</i>) dominate the community where a tree layer still occurs. DOTE	Definite – identified three areas within the subject site.	Assessment of significance required.
New England Peppermint (<i>Eucalyptus nova-anglica</i>) Grassy Woodlands	EPBC Critically Endangered	The New England Peppermint (<i>Eucalyptus nova-anglica</i>) Grassy Woodlands have a structure ranging from woodland to open forest with a tree canopy of eucalypts. It typically lacks a substantial shrub layer, but has a dense ground layer of grasses and other herbs. DOTE	Negligible – Not observed during site assessment.	Negligible – Does not occur onsite.

THREATENED FAUNA SPECIES & COMMUNITIES

Threatened Aves

AVES	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Anthochaera phrygia</i> — Regent Honeyeater	EPBC Endangered TSC Endangered	Inhabits eucalypt open forests and woodlands, predominantly box-ironbark types, but also Spotted Gum and Swamp Mahogany on the coast. The species also inhabits River She-oak gallery forest with <i>Amyema cambagei</i> (Needle-leaf Mistletoe). ^{OEH}	Possible – may utilise site for foraging.	Possible – May occur within subject site (although not observed). Assessment of Significance Required.
<i>Botaurus poiciloptilus</i> — Australasian Bittern	EPBC Endangered TSC Endangered	Inhabits temperate freshwater wetlands and occasionally estuarine reedbeds. The species favours permanent shallow waters, or edges of pools and waterways, with tall, dense vegetation such as sedges, rushes and reeds on muddy or peaty substrate. Australasian Bitterns also occur in <i>Lignum Muehlenbeckia florulenta</i> and Canegrass <i>Eragrostis australasica</i> on inland wetlands. ^{OEH}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite, not observed during assessment.
<i>Falco subniger</i> – Black Falcon	TSC Vulnerable	Inhabits woodland, shrubland and grassland in the arid and semi-arid zones, especially wooded watercourses and agricultural land with scattered remnant trees. The Black Falcon is usually associated with streams or wetlands, visiting them in search of prey and often using standing dead trees as lookout posts. ^{OEH}	Possible – may utilise site for foraging.	Possible – May occur within subject site (although not observed). Assessment of Significance Required.
<i>Geophaps scripta scripta</i> – Squatter Pigeon (southern)	EPBC Vulnerable	Eucalypt woodlands that are intersected with patches of acacia and stands of cypress pine <i>Callitris columellaris</i> and that have a ground cover of grasses and herbs. The subspecies has also been recorded in scrub and acacia growth. ^{OEH}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite, not observed during assessment.

AVES	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Lathamus discolor</i> — Swift Parrot	EPBC Endangered TSC Endangered	Occurs in woodlands and forests of New South Wales from May to August, where it feeds on eucalypt nectar, pollen and associated insects. OEH	Possible – may utilise site for foraging.	Possible – May occur within subject site (although not observed). Assessment of Significance Required.
<i>Lophoictinia isura</i> – Square-tailed Kite	TSC Vulnerable	Forages over coastal and subcoastal, eucalypt-dominated open forests and woodlands, and inland riparian woodland. It particularly favours productive forests on the coastal plain, box-ironbark-gum woodlands on the inland slopes, and Coolibah/River Red Gum on the inland plains. OEH	Possible – may utilise site for foraging.	Possible – May occur within subject site (although not observed). Assessment of Significance Required.
<i>Rostratula australis</i> — Australian Painted Snipe	EPBC Endangered TSC Endangered	Inhabits shallow freshwater wetlands, vegetated ephemeral and permanent lakes and swamps, and inundated grasslands. The Painted Snipe roosts during the day in dense vegetation and is active at dusk, throughout the night and dawn. OEH	Negligible –. Habitat not appropriate.	Negligible – unlikely to occur onsite.

Threatened Amphibians

AMPHIBIANS	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Litoria booroolongensis</i> — Booroolong Frog	EPBC Endangered TSC Endangered	Typically inhabits rocky western-flowing creeks and their headwaters, although a small number of animals have also been recorded in eastern-flowing streams. OEH	Negligible – Potential suitable habitat approximately 150m east of study site.	Negligible – unlikely to occur onsite.

Threatened Fish

FISH	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Maccullochella peelii</i> – Murray Cod	EPBC Vulnerable	The Murray Cod is found in a wide range of warm water habitats, from clear, rocky streams to slow-flowing turbid rivers. The cod is dependent on in stream debris. ^{DOTE}	Negligible – Potential suitable habitat approximately 150m east of study site.	Negligible – Habitat not appropriate.

Threatened Reptiles

REPTILE	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Aprasia parapulchella</i> - Pink-tailed Legless Lizard	TSC Vulnerable EPBC Vulnerable	Pink-tailed Worm-lizards are most commonly found sheltering under small rocks (15–60 cm basal area) shallowly embedded in the soil (2–5 cm). Some individuals have been found under larger rocks embedded up to 30 cm deep. It is suggested that surveys that have indicated a preference inadvertently avoiding southerly aspects ^{DOTE}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.
<i>Uvidicolus sphyrurus</i> - Border Thick-tailed Gecko	TSC Vulnerable EPBC Vulnerable	Often occurs on steep rocky or screed slopes, especially granite. Recent records from basalt and metasediment slopes and flats indicate its habitat selection is broader than formerly thought and may have extended into areas that were cleared for agriculture. Favours forest and woodland areas with boulders, rock slabs, fallen timber and deep leaf litter. Occupied sites often have a dense tree canopy that helps create a sparse understorey. ^{OEH}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.

Threatened Mammals

MAMMALIAN SPECIES	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Chalinolobus dwyeri</i> — Large-eared Pied Bat, Large Pied Bat	EPBC Vulnerable TSC Vulnerable	Requires a combination of sandstone cliff/escarpment to provide roosting habitat that is adjacent to higher fertility sites, particularly box gum woodlands or river/rainforest corridors which are used for foraging. ^{DOE}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.
<i>Dasyurus maculatus maculatus</i> (SE mainland population) — Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	TSC Vulnerable EPBC Endangered	Preference for mature wet forest habitat, especially in areas with rainfall 600 mm/year. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. Occurs in a wide range of habitats. ^{OEH}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.
<i>Nyctophilus corebeni</i> – South-eastern Long-eared Bat	EPBC Vulnerable TSC Vulnerable	The South-eastern Long-eared Bat occurs in a range of inland woodland vegetation types, including box, ironbark and cypress pine woodlands. ^{OEH}	Possible – Patches of riparian woodland may be suitable (hollow bearing)	Negligible – Riparian areas will not be impacted by rezoning.
<i>Petaurus norfolcensis</i> – Squirrel Glider	TSC Vulnerable	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or Acacia midstorey. ^{OEH}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.
<i>Petrogale penicillata</i> — Brush-tailed Rock-wallaby	EPBC Vulnerable TSC Endangered	Prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. ^{DOE}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.

MAMMALIAN SPECIES	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<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)	EPBC Vulnerable TSC Vulnerable	Inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by species from the genus <i>Eucalyptus</i> . The distribution of Koalas is also affected by altitude (limited to <800m ASL), temperature and, at the western and northern ends of the range, leaf moisture. ^{DOE}	Possible – Feed species present – however patches isolated and no scats recorded during targeted habitat search.	Negligible – unlikely to occur onsite.
<i>Pseudomys novaehollandiae</i> – New Holland Mouse	EPBC Vulnerable	The New Holland Mouse has been found from coastal areas and up to 100 km inland on sandstone country. Due to the largely granivorous diet of the species, sites where the New Holland Mouse is found are often high in floristic diversity, especially leguminous perennials. ^{DOE}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.
<i>Pteropus poliocephalus</i> – Grey-headed Flying-fox	EPBC Vulnerable	The Grey-headed Flying-fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, <i>Melaleuca</i> swamps and <i>Banksia</i> woodlands. It also feeds on commercial fruit crops and on introduced tree species in urban areas. ^{DOE}	Negligible – Not observed during site assessment. Habitat not appropriate.	Negligible – unlikely to occur onsite.

^{DOE} NSW Office of Environment & Heritage Threatened Species Listings

^{DOE} Department of the Environment Threatened Species Listings.

Threatened Migratory Species (EPBC)

EPBC MIGRATORY	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Apus pacificus</i> — Fork-tailed Swift	Threatened	Occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in arid and semi-arid regions however this is extremely rare. High numbers have been observed in moist, low-lying poorly drained pastures with an abundance of high grass; it avoids low grass pastures. ^{NOTE}	Negligible —. Habitat not appropriate.	Negligible — unlikely to occur onsite.
<i>Ardea modesta</i> — Eastern Great Egret	Threatened	The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). ^{NOTE}	Possible — Suitable habitat present.	Possible — May utilise site onsite habitat. Assessment of Significance Required.
<i>Ardea ibis</i> — Cattle Egret	Threatened	Occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in arid and semi-arid regions however this is extremely rare. ^{NOTE}	Possible — Suitable habitat present.	Possible — May utilise site onsite habitat. Assessment of Significance Required.
<i>Gallinago hardwickii</i> — Japanese Snipe	Threatened	In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). ^{NOTE}	Negligible —. Habitat not appropriate.	Negligible — unlikely to occur onsite.
<i>Haliaeetus leucogaster</i> — White-bellied Sea-eagle	Threatened	Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest (including rainforest) and even urban areas. Breeding has been recorded on the coast, at inland sites, and on offshore islands. ^{NOTE}	Possible — Suitable foraging habitat for prey in grasslands	Possible — May utilise site opportunistically for foraging. Assessment of Significance Required.

EPBC MIGRATORY	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Hirundapus caudacutus</i> — White-throated Needletail	Threatened	Occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. ^{NOTE}	Possible – Suitable habitat present.	Possible – May utilise site onsite habitat. Assessment of Significance Required.
<i>Merops ornatus</i> — Rainbow Bee-eater	Threatened	Occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation It usually occurs in open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water. ^{NOTE}	Possible – Suitable habitat present.	Possible – May utilise site onsite habitat. Assessment of Significance Required.
<i>Myiagra cyanoleuca</i> — Satin Flycatcher	Threatened	Inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.*	Possible – Suitable habitat present.	Possible – May utilise site onsite habitat. Assessment of Significance Required.
<i>Rhipidura rufifrons</i> — Rufous Fantail	Threatened	Undergrowth of rainforests/wetter eucalypt forests/gullies, monsoon forests, paper barks, sub-inland and coastal scrubs, water courses, parks, gardens. When migrating, farms, streets, buildings.*	Possible – Suitable habitat present.	Possible – May utilise site onsite habitat. Assessment of Significance Required.
<i>Xanthomyza phrygia</i> – Regent Honeyeater	Endangered	Regent Honeyeaters mostly occur in dry Box-Ironbark eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites available, for example along creek flats, or in broad river valleys and foothills. ^{NOTE}	Possible – Suitable habitat present.	Possible – May utilise site onsite habitat. Assessment of Significance Required.

EPBC MIGRATORY	LISTING	HABITAT	PRESENCE LIKLIHOOD	IMPACT LIKELIHOOD
<i>Rostratula benghalensis</i> (sensu lato) – Painted Snipe.	Vulnerable	Inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. ^{DOTE}	Negligible –. Habitat not appropriate.	Negligible – unlikely to occur onsite.

* Pizzey, G & Knight, F 2007 The Field Guide to the Birds of Australia, Harper Collins Publishing.
 OEH NSW Office of Environment & Heritage Threatened Species Listings
 DOTE Department of the Environment Threatened Species Listings.



Appendix F Assessments of Significance

VULNERABLE SPECIES: *Ardea ibis*, *Haliaeetus leucogaster*, *Hirundapus caudacutus*, *Merops ornatus*, *Myiagra cyanoleuca*, *Xanthomyza phrygia*, *Rhipidura rufifrons*.

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate and area of important habitat for a migratory species	The existing habitat is currently significantly fragmented and disturbed and it is unlikely that it acts as 'important habitat' for any of the listed migratory species, with exception of habitat area 5. The proposed rezoning will not result in any habitat modification - further assessment of significance will be required to be undertaken if development is required in these areas taking into account development specifics currently unavailable.
result in invasive species that are harmful to the migratory species becoming established in an area of important habitat for the migratory species	It is extremely unlikely that the proposal will result in the introduction of harmful invasive species.
Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population or a migratory species	Serious disruption to the lifecycle of an important population is not expected as a result of the proposal.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

Anthochaera phrygia, Lathamus discolor

An action is likely to have a significant impact on an endangered species if there is a real chance or possibility that it will:

lead to a long-term decrease in the size of a population	No specimens of the listed species were observed onsite during preliminary habitat stratification or detailed habitat classification. Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.
reduce the area of occupancy of the species	As above – Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed following the rezoning.
fragment an existing population into two or more populations	As above – Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed following the rezoning.
adversely affect habitat critical to the survival of a species	The Australian Government's Department of the Environment Critical Habitat Register has been consulted. It has been determined that no habitat critical to the above species has been recorded in close proximity to the subject site.
disrupt the breeding cycle of a population	As above – Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed following the rezoning.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The existing habitat is already extensively fragmented and isolated. Similar habitat occurs abundantly throughout the Tamworth region. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed following the proposed rezoning. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	It is unlikely that the proposal or associated activities will result in the introduction of any species harmful to the vulnerable species habitat.
introduce disease that may cause the species to decline, or	It is unlikely that the proposal or associated activities will result in the introduction of disease that may cause the species to decline if present.
interfere with the recovery of the species.	It is unlikely that the proposed rezoning will interfere substantially with the recovery of the species – there is an abundance of similar habitat throughout the region. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

Falco subniger

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	No specimens of the listed species were observed onsite during preliminary habitat stratification or detailed habitat classification. Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.
reduce the area of occupancy of an important population	As above – population unlikely to be 'important' due to spatial isolation and extensive disturbance. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
fragment an existing important population into two or more populations	As above – population unlikely to be 'important' due to spatial isolation and extensive disturbance. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
adversely affect habitat critical to the survival of a species	The Australian Government's Department of the Environment Critical Habitat Register has been consulted. It has been determined that no habitat critical to the above species has been recorded in close proximity to the subject site.
disrupt the breeding cycle of an important population	As above – population unlikely to be 'important' due to spatial isolation and extensive disturbance. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The existing habitat is already extensively fragmented and isolated. Similar habitat occurs abundantly throughout the Tamworth region. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	It is unlikely that the proposal or associated activities will result in the introduction of any species harmful to the vulnerable species habitat.
introduce disease that may cause the species to decline, or	It is unlikely that the proposal or associated activities will result in the introduction of disease that may cause the species to decline.
interfere substantially with the recovery of the species.	It is unlikely that the rezoning and associated development will interfere substantially with the recovery of the species – there is an abundance of similar habitat throughout the region.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

VULNERABLE SPECIES: *Dicanthium setosum*, *Priscis evae*.

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	No specimens of any of the two (2) listed species were observed onsite during preliminary habitat stratification or detailed habitat classification. Subsequently, if the species do occur onsite they are likely to be isolated (and subsequently have limited viability) and are therefore unlikely to comprise an 'important population'. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
reduce the area of occupancy of an important population	As above – population unlikely to be 'important' due to spatial isolation and extensive disturbance. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
fragment an existing important population into two or more populations	As above – population unlikely to be 'important' due to spatial isolation and extensive disturbance. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
adversely affect habitat critical to the survival of a species	The Australian Government's Department of the Environment Critical Habitat Register has been consulted. It has been determined that no habitat critical to the above species has been recorded in close proximity to the subject site.
disrupt the breeding cycle of an important population	As above – population unlikely to be 'important' due to spatial isolation and extensive disturbance. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The existing habitat is already extensively fragmented and isolated. Similar habitat occurs abundantly throughout the Tamworth region. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	It is unlikely that the proposal or associated activities will result in the introduction of any species harmful to the vulnerable species habitat.
introduce disease that may cause the species to decline, or	It is unlikely that the proposal or associated activities will result in the introduction of disease that may cause the species to decline.
interfere substantially with the recovery of the species.	It is unlikely that the rezoning and associated development will interfere substantially with the recovery of the species – there is an abundance of similar habitat throughout the region.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

ENDANGERED SPECIES: *Dicanthium setosum*, *Priscis evae*.

An action is likely to have a significant impact on an endangered species if there is a real chance or possibility that it will:

lead to a long-term decrease in the size of a population	No specimens of the listed species were observed onsite during preliminary habitat stratification or detailed habitat classification. Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.
reduce the area of occupancy of the species	As above – Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed following the rezoning.
fragment an existing population into two or more populations	As above – Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed following the rezoning.
adversely affect habitat critical to the survival of a species	The Australian Government's Department of the Environment Critical Habitat Register has been consulted. It has been determined that no habitat critical to the above species has been recorded in close proximity to the subject site.
disrupt the breeding cycle of a population	As above – Areas deemed as having habitat potential ('habitat 5') are unlikely to be developed following the rezoning.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The existing habitat is already extensively fragmented and isolated. Similar habitat occurs abundantly throughout the Tamworth region. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed following the proposed rezoning. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	It is unlikely that the proposal or associated activities will result in the introduction of any species harmful to the vulnerable species habitat.
introduce disease that may cause the species to decline, or	It is unlikely that the proposal or associated activities will result in the introduction of disease that may cause the species to decline if present.
interfere with the recovery of the species.	It is unlikely that the proposed rezoning will interfere substantially with the recovery of the species – there is an abundance of similar habitat throughout the region. In the event that these areas are proposed to be development, an additional assessment of significance should be undertaken.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

An action is likely to have a significant impact on a critically endangered ecological community if there is a real chance or possibility that it will:

• reduce the extent of an ecological community	Box Gum Woodland has a wide distribution within the Tamworth Region and beyond. The extent of the listed community will not be reduced as a result of the proposed rezoning. Further assessment of significance will be required to be undertaken if development is required in these areas.
• fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	As above – 'Habitat 5' areas will not be removed as a direct result of the proposed rezoning. Further assessment of significance will be required to be undertaken if development is required in these areas.
• adversely affect habitat critical to the survival of an ecological community	The Australian Government's Department of the Environment Critical Habitat Register has been consulted. It has been determined that no habitat critical to the above community has been recorded in close proximity to the subject site. Box Gum Woodland has a wide distribution within the Tamworth Region and beyond.
• modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	The proposed rezoning will not modify or destroy abiotic factors important to the community. Further assessment of significance will be required to be undertaken if development is required in these areas.
• cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	The proposed rezoning will not cause any changes to species composition within the community. Further assessment of significance will be required to be undertaken if development is required in these areas.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

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| <ul style="list-style-type: none">• cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:-- assisting invasive species, that are harmful to the listed ecological community, to become established, or-- causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or | <p>The proposed rezoning will not cause any such changes to the ecological community. Further assessment of significance will be required to be undertaken if development is required in these areas.</p> |
| <ul style="list-style-type: none">• interfere with the recovery of an ecological community. | <p>It is unlikely that the rezoning and associated development will interfere substantially with the recovery of the species – there is an abundance of similar habitat throughout the region.</p> |

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

CRITERION	APPLICATION TO IDENTIFIED SPECIES
In the case of a threatened species, whether the action proposed 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,	It is likely that the species would only use the site as feeding habitat opportunistically. It is unlikely that the proposal and subsequent activity would adversely reduce important feeding habitat for the species. Areas that may provide roosting or breeding habitat are unlikely to be developed. Further assessment of significance will be required to be undertaken if development is required in these areas.
In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,	N/A
- In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	N/A
- In relation to the habitat of a threatened species, population or ecological community: (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) 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,	(i) it is unlikely that development will result in modification and clearing to approximately to 35ha of potential habitat. (ii) the potential habitat is already significantly fragmented and isolated from similar habitat, as well as highly disturbed. (iii) Similar habitat is extensively abundant throughout the Tamworth Region, and subsequently it is unlikely that this area of fragmented, isolated habitat is important to the long-term survival of the species.

CRITERION	APPLICATION TO IDENTIFIED SPECIES
Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),	The Federal Government Department of the Environment Critical Habitat Register has been consulted. No registered critical habitat occurs within close proximity to the subject site.
Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,	TSC management objectives for the species predominantly focus on nest and nesting tree retention for the species. The subject site has few mature trees which might be suitable for the species and those which are occur in areas that are unlikely to be developed. There is no EPBC threat abatement plan for the species.
Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	The proposed rezoning will not directly result in clearing of potential habitat ('Habitat 5'). Further assessment of significance will be required to be undertaken if development is required in these areas taking into account development specifics currently unavailable.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant impact is not likely.

TSC Listed Flora Species Significant Impact Criteria and Assessment (*Dicanthium setosum*, *Picris evae*, *Tylophora linearis*)

CRITERION	APPLICATION TO IDENTIFIED SPECIES
In the case of a threatened species, whether the action proposed 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,	Given existing land pressures, significant isolation and habitat degradation, it is unlikely that any local populations (if occurring) would be viable. Adverse effects on the lifecycle of a viable population are expected to be unlikely. Areas offering the highest habitat potential ('habitat 5') are unlikely to be developed.
In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,	N/A
- In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	N/A
- In relation to the habitat of a threatened species, population or ecological community: (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) 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,	(iv) it is likely that development will result in modification and clearing to approximately 35 ha of potential habitat. (v) the potential habitat is already significantly fragmented and isolated from similar habitat, as well as highly disturbed. (vi) Similar habitat is extensively abundant throughout the Tamworth Region, and subsequently it is unlikely that this area of fragmented, isolated habitat is important to the long-term survival of the species.

CRITERION	APPLICATION TO IDENTIFIED SPECIES
Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),	The Federal Government Department of the Environment Critical Habitat Register has been consulted. No registered critical habitat occurs within close proximity to the subject site.
Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,	Management and threat abatement plans relate predominantly to identify populations of high conservation value. If the species is located onsite the population is likely to be fragmented and isolated, and subsequently of low conservation value.
Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	The rezoning of the land does not comprise a key threatening process however it is likely to result in the key threatening process of 'Clearing of Native Vegetation'. However the significance of this impact should be undertaken when development specifics are known.
SUBSEQUENT DETERMINATION OF SIGNIFICANCE:	
A significant Impact is not likely.	

TSC Listed Endangered Ecological Community

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

CRITERION	APPLICATION TO IDENTIFIED SPECIES
In the case of a threatened species, whether the action proposed 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,	N/A
In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,	N/A
- In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	Tamworth Region and beyond. The extent of the listed community will not be reduced or modified in composition as a result of the proposed rezoning. Further assessment of significance will be required to be undertaken if development is required in these areas.
- In relation to the habitat of a threatened species, population or ecological community: (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) 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 proposed rezoning will not cause any such changes to the ecological community. Further assessment of significance will be required to be undertaken if development is required in these areas.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

CRITERION	APPLICATION TO IDENTIFIED SPECIES
Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),	The Federal Government Department of the Environment Critical Habitat Register has been consulted. No registered critical habitat occurs within close proximity to the subject site.
Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,	Management objectives for the community predominantly focus on the retention and protection of important areas of the EEC. The reproductive ability of the potential habitat present is currently severely inhibited by the presence of arsenic contamination. Subsequently the vegetation in it's current state is of little importance to the community as a whole.
Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	The rezoning of the land does not comprise a key threatening process however it is likely to result in the key threatening process of 'Clearing of Native Vegetation'. However the significance of this impact should be undertaken when development specifics are known.

SUBSEQUENT DETERMINATION OF SIGNIFICANCE:

A significant Impact is not likely.