Ecology Assessment Report ☒
Pre-clearance Survey Report ☐

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Development Package 103 Ecology Report

Origin Energy

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Template 2.8.1

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Abbreviations

Abbreviation	Description
ALA	Atlas of Living Australia
DNRM	Department of Natural Resources and Mines
DoE	Department of Environment
DoEE	Department of Environment and Energy
EHP	Department of Environment and Heritage Protection
ELA	Eco Logical Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESA	Environmentally sensitive area
GTRE	Ground-truthed Regional Ecosystem
MNES	Matters of National Environmental Significance
NC Act	*Nature Conservation Act 1992*
PL	Petroleum Lease
PMST	Protected Matters Search Tool
RE	Regional Ecosystem
REDD	Regional Ecosystem Description Database
SEVT	Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions
SLC	Special Least Concern
SO	Stream Order
SPRAT	Species Profile and Threats Database
TEC	Threatened Ecological Community
TSSC	Threatened Species Scientific Committee
VM Act	*Vegetation Management Act 1999*
WoNS	Weeds of National Significance

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Executive Summary

An ecological assessment has been undertaken to identify and quantify values located within the Combabula development area across five Lot Plans and associated road reserves within Development Package (DP) 103. This assessment is required under State and Commonwealth approvals for the development area.

The ecological assessment included a desktop review of available ecological databases, mapping and a field survey to validate the findings of the desktop assessments. The field survey consisted of quaternary and tertiary surveys to identify vegetation communities (Regional Ecosystems (REs)) in accordance with Neldner *et al.* 2019. It also involved Threatened Ecological Community (TEC) assessments, targeted habitat assessments for threatened flora and fauna species, and watercourse determination assessments.

Several State and Commonwealth ecological values were identified within the study area including:

- one TEC: Brigalow (*Acacia harpophylla* dominant and co-dominant)
- one Endangered (Biodiversity Status) RE (11.9.5). This vegetation meets the definition of Category B Environmentally Sensitive Area (ESA)
- three Of Concern (Biodiversity Status) REs (11.3.2, 11.3.25, 11.9.7). This vegetation meets the definition of Category C Environmentally Sensitive Area (ESA)
- four NC Act Special Least Concern flora species *Brachychiton populneus* (Kurrajong), *Brachychiton rupestris* (Narrow-leaved Bottle Tree), *Cymbidium canaliculatum* (Black Orchid) and *Cheilanthes sieberi* (Mulga Fern)
- one NC Act Special Least Concern fauna species, *Tachyglossus aculeatus* (Short-beaked Echidna).
- one Environmentally Sensitive Area (Category C Essential Habitat for Golden-tailed Gecko) mapped in the north eastern portion of the study area (LotPlan 49WV614).

No threatened or migratory species under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) were identified across the study area, nor were any threatened fauna species under the NC Act identified during the survey. However, a range of habitat values and suitable habitat for several State and Commonwealth listed flora and fauna species were identified.

It is recommended that the findings in this report are considered during detailed development planning such that disturbance to the ecological values of the study area may be avoided wherever practical. Where disturbance is unavoidable, impact mitigation measures are to be implemented in accordance with the approved Threatened Ecological Community Management Plan, Threatened Flora Management Plan and regulatory approval conditions.

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1. Introduction

This report provides a description of the ecological values found within five Lot Plans (2WV613, 51WV616, 50WV616, 49WV614 (west), 49WV614 (east)) and adjacent road reserves (**Appendix A, Figure 1**). The Lot Plans and adjacent road reserve areas herein are referred to as the study area. The results are based on an initial desktop assessment, followed by a field survey to confirm vegetation communities, flora and fauna species, watercourses, habitat values and areas of disturbance occurring within the study area.

Eco Logical Australia Pty Ltd (ELA) was engaged by Origin Energy on behalf of the Australia Pacific LNG Pty Ltd Project (Australia Pacific LNG) to conduct the ecological assessment for DP 103 (the study area) which occurs within the Combabula development area. The Combabula development area includes Petroleum Lease (PL) 405, in which Australia Pacific LNG is the principal holder of the tenures. Surveys were conducted by Loren Appleby (Ecologist) and Jo Davis (Ecologist). Surveys were conducted under the direction of Department of Environment and Energy (DoEE) suitably qualified person Dr Alan House.

1.1 Scope of Works

An ecological survey was required to be carried out under conditions of Combabula Environmental Authority (EA) EPPG00853213 issued under the *Environmental Protection Act 1994* (EP Act) and conditions of the Australia Pacific LNG Pty Ltd *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval (EPBC 2009/4974). As such, both State and Commonwealth matters of environmental significance were investigated. Surveys were carried out in accordance with Origin Energy Scope of Works Ecological Assessment (Q-LNG01-15-SW-0165).

The scope of the ecology survey included:

- ecology survey in accordance with Neldner *et. al*. (2019) to determine regional ecosystems (REs) as described in the Regional Ecosystem Description Database (REDD)
- location and extent of Threatened Ecological Communities (TEC) (in accordance with the EPBC Act) within the study area
- location and distribution of threat-listed flora and fauna species (in accordance with the EPBC Act and *Nature Conservation Act 1992* (NC Act)) within the study area
- location and extent of Environmentally Sensitive Areas (ESAs) under the *Environmental Protection Act 1994* (EP Act)
- ground-truthing of watercourses and drainage features in accordance with definitions under the *Water Act 2000*
- opportunistic observations of weeds or pest species that are Weeds of National Significance (WoNS), listed under the *Biosecurity Act 2014* as restricted matter or listed within the Maranoa Regional Council Pest Management Plan (2012 – 2016) (details of which are provided in a separate report).

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2. Site Context

Table 1 provides the site context of the study area, including bioregions, current land use, soils, geology and climate.

Table 1: Site Context

Bioregion	The study area is in the Southern Downs subregion (11.29) of the Brigalow Belt South bioregion. The Southern Downs subregion is based on the Jurassic and Cretaceous sediments that outcrop around the rim of the Great Artesian Basin. This subregion is dominated by fined-grained sediments that form a low, hilly landscape, and includes the watershed formed by the Great Dividing Range. The main vegetation types include those dominated by *E. crebra* (Narrow-leaved Ironbark), *E. fibrosa* subsp. *nubila* (Broad-leaved Red Ironbark) and *Eucalyptus populnea* (Poplar Box). Some areas contain C*asuarina cristata* (Belah) and *Acacia harpophylla* (Brigalow).
Climate	The nearest Bureau of Meteorology (BoM) weather station to the study area is at the Roma Airport, approximately 60 km south-west of the study area. Yearly average temperatures at Roma range from a mean maximum of 34.5°C in January to a mean minimum of 3.8°C in July. Average annual rainfall is 574.1 mm, with the highest monthly average rainfall occurring in February (85.2 mm) and the lowest occurring in July (22.3 mm) (BoM 2019). During the survey period, temperatures ranged between a maximum of 23.7°C to 24.8°C and minimum of 9.3°C to 14.8°C. No rainfall was recorded during the survey period.
Current land use	The current land uses include cattle grazing, selective logging and coal seam gas infrastructure. The study area comprises mostly cleared lands which are used for cattle grazing consisting of exotic grasses. Recent land clearing was observed at the north-east of the study area (49WV614). This previously occurring vegetation is still visually shown on the most recently available aerial imagery (Google Earth, 2019). Extant patches of vegetation remain in linear configurations throughout the study area as shadelines or along creeklines, with large vegetation patches being limited to the south-east of the study area.
Soils and geology	The study area occurs wholly within the Bungil Formation. This is comprised of glauconitic, labile to quartzose, siltstone, mudstone, sandstone. The dominant rock is arenite-mudrock. All rocks are from stratified units, including volcanic and metamorphic rocks (Queensland Globe 2018). Associated landforms and soil types within the study area include (Queensland Globe 2019): • Undulating lands with hard pedal brown duplex soils; and • Gently undulating or almost level plains with brown and red self-mulching cracking clays

3. Methodology

3.1 Desktop assessment

A desktop assessment and review of environmental databases, maps and associated literature was undertaken to evaluate the existing data and identify the potential presence of Commonwealth listed Matters of National Environmental Significance (MNES) and State environmental values within the study area.

3.1.1 Database searches

The following databases were reviewed to assess potential Commonwealth and State environmental matters that may occur within the study area (refer to **Appendix C, Appendix D and Appendix F**):

- Protected Matters Search Tool (PMST)
- Wildlife Online
- Regional Ecosystem (RE) mapping
- Queensland geological digital data (Queensland Globe)
- Referable Wetland mapping
- Watercourse identification mapping
- Protected Plant Flora Survey Trigger mapping
- Environmentally sensitive areas (ESA) mapping
- Atlas of Living Australia (ALA)
- Aerial photography
- Approved Conservation Advice, National Recovery Plans and Survey Guidelines for MNES species occurring within the study area.

Sources utilised in the desktop and literature review are listed in **Table 2** below and results were incorporated into this report.

Table 2: Desktop and Literature Review Sources

Database	Co-ordinates or search area	Date of search	Appendix
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool	-26.3454; 149.3164 20 km buffer	17 May 2019	**Appendix C**
Nature Conservation Act 1992 (NC Act) Protected Species Lists Wildlife Online Database	-26.3454; 149.3164 20 km buffer	17 May 2019	**Appendix D**
Department of Natural Resources and Mines (DNRM) Regional Ecosystem and Remnant Map—version 11	Reviewed over the study area. Obtained from QSpatial.	17 May 2019	**Appendix E**
EHP Map of Environmentally Sensitive Areas	PL405	17 May 2019	**Appendix F**
EHP Map of Referable Wetlands and Wetland Protection Areas	Each lot and plan within the study area	17 May 2019	**Appendix F**
EHP Protected Plants Flora Survey Trigger Map	Each lot and plan within the study area	17 May 2019	**Appendix F**

Database	Co-ordinates or search area	Date of search	Appendix
Queensland Globe – Geology Mapping	Reviewed over the study area	17 May 2019	NA
Matters of State Environmental Significance Mapping	Reviewed over the study area	17 May 2019	NA
Atlas of Living Australia	-26.3454; 149.3164 20 km buffer	17 May 2019	**NA**

3.1.2 Likelihood of occurrence assessment

The following criteria were used as a basis of the assessment:

- 'Known': the species, population or ecological community was or has been observed within the area of proposed activities.
- 'Likely': suitable high-quality habitat for a species, population or ecological community occurs within the area of proposed activities and records of the species is within the region.
- 'Potential': suitable habitat for a species, population or ecological community occurs within the area of proposed activities, but there is insufficient information to categorise the species as likely, or unlikely to occur.
- 'Unlikely': a low to very low probability that a species, population or ecological community uses/occurs within the area of proposed activities (e.g. lack of suitable habitat or outside the species' known range.
- 'Does not occur': the species will not occur (e.g. marine species in a terrestrial study area) or for an ecological community or flora species, the entire area of proposed activities has been ground-truthed and the community / flora species does not occur.

Likelihood of occurrence assessment is included throughout the relevant sections of this report, with the full assessment for all State and Commonwealth values presented in **Appendix L.**

3.2 Field Survey

Ecological surveys were conducted in accordance with:

- The Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 5.0) (Neldner *et al.* 2019)
- Origin Energy Scope of Works Ecological Assessment (Q-LNG01-15-SW-0165)
- methods described in the *Environmental Constraints Planning and Field Development Protocol* (Q-LNG01-15-MP-0109, Australia Pacific LNG 2011).

Field surveys were undertaken between 22nd and 23rd May 2019 by two suitably qualified ecologists from Eco Logical Australia.

3.2.1 Vegetation Community Survey

Baseline botanical surveys were undertaken to describe dominant flora and vegetation community structure throughout the study area. Botanical surveys were consistent with the tertiary and quaternary level of data collection as described in Neldner *et al*. (2019).

The tertiary level vegetation community surveys (vegetation structure surveys) were undertaken within 50 m x 10 m plots (where possible) to validate the vegetation community under assessment. Vegetation community data was entered into the data fields installed in Collector for ArcGIS data capture system. These fields include:

- Username
- Structural formation
- Ecological dominant layer
- Geology
- Observed RE
- Condition (remnant, regrowth, non-remnant)
- Maximum, minimum and median height (m) for each ecological layer
- Dominant species occurring within each ecological layer
- Cover density of each ecological layer.

Ground-truthing of the DNRM RE designation (DNRM 2019) at and surrounding the survey area was undertaken via quaternary level and random meander transect assessments.

A total of 84 quaternary level surveys and 80 vegetation structure surveys were undertaken within the study area. The locations of the vegetation structure survey sites are presented in **Appendix B, Figure 2.** Where necessary, representative photo(s) were taken of the subject vegetation community via GPS camera. Photo aspect data was recorded via digital metadata.

Vegetation community polygons were verified in accordance with Queensland RE description and biodiversity status as per the Regional Ecosystem Description Database (REDD) (DES 2019) and EPBC Threatened Ecological Community (TEC) criteria (DoE 2013).

Revised RE polygons were created where on-ground assessments differed from existing State RE mapping. Capture and delineation of RE and TEC boundaries was undertaken using a combination of Arc Collector captured data and/or interpretation from imagery.

For the purposes of this assessment vegetation was mapped as three categories:

- Remnant: woody vegetation that has not been cleared or vegetation that has been cleared but where the dominant canopy has greater than 70% of the height and greater than 50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy (Neldner *et al.* 2019).
- Regrowth: vegetation that has not been cleared in the last 15 years and containing woody vegetation floristically and structurally consistent with the RE but is either <70% of the height or <50% density of the RE.
- Non-remnant: areas previously cleared or otherwise significantly disturbed from the vegetation's undisturbed state.

3.2.2 Threated Ecological Community Assessments

TEC assessments were undertaken to confirm the presence of TECs identified during the desktop assessment, namely:

- Brigalow (*Acacia harpophylla dominated and co-dominated*) Threatened Ecological Community (Brigalow TEC)
- Coolibah – Black Box Woodlands of the Darling Riverine Plains and Brigalow Belt South Bioregions (Coolibah TEC)
- Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions (SEVT)
- Weeping Myall Woodlands.

Brigalow TEC assessment were undertaken to identify vegetation communities meeting the key diagnostic and condition threshold criteria as described in the Commonwealth Approved Conservation Advice (DoE, 2013). The following data was collected at various sites within Brigalow vegetation to assist with TEC assessments:

- dominance or co-dominance of Brigalow
- listed RE
- exotic perennial grass cover
- age of community
- patch size.

Coolibah TEC, SEVT TEC and Weeping Myall Woodlands TEC were not encountered during the field survey.

3.2.3 Threatened Flora and Fauna Survey

Listed threatened species are those listed under the *EPBC Act 1999* and the *Nature Conservation Act 1992*.

Throughout the study area, targeted threatened flora and fauna searches were undertaken for species identified as potentially, likely or known to occur in the study area through desktop and likelihood of occurrence assessments (**Appendix L**). Targeted searches were undertaken where potential habitat features were identified through desktop assessments or undertaken based on incidental field observations of high-quality habitat (i.e. suitable breeding or foraging resources).

Any observations of threatened species (whether within search areas or opportunistically) were recorded using ArcCollector. Where practicable, photo(s) were taken of the subject threatened species.

Any flora specimens deemed as potential threatened species and not conclusively identified by the ecologists were forwarded to the Queensland Herbarium for verification. Where potential habitat for threatened fauna was identified, habitat assessments specific to each species was recorded using ArcCollector.

3.2.4 Habitat Assessments

General habitat assessments were conducted to quantify the presence and extent of habitat features that may be suitable for a range of species, as well as targeted threatened species. This included identifying features such as:

- habitat type and condition (i.e. RE, remnant or regrowth)
- ground cover (native and exotic cover percentages)
- size and abundance of hollow bearing trees

- size and abundance of hollow logs and logs
- size and abundance of soil cracks, gilgais and fallen woody debris
- leaf litter cover and depth
- presence of rocky outcrops
- presence of potential bat roosts
- presence of koala food trees.

A total of 17 general habitat surveys were conducted across the study area (**Appendix B, Figure 2**).

3.2.5 Exotic Flora and Fauna Survey

Presence and abundance of the following were undertaken during the ecology survey:

- Restricted Matter flora species listed under the *Biosecurity Act 2014*, Schedules 1 and 2
- Weeds of National Environmental Significance (WoNS)
- Agricultural and/or environmental weeds listed in the Maranoa Regional Council Pest Management Plan (2012 – 2016).

Species were identified, and a count and/or area of occupancy estimated at each weed detection site was recorded within Arc Collector. Evidence of pest fauna (i.e. scats) were also recorded.

A detailed weed report for the study area has been prepared separately (ELA 2019).

3.2.6 Disturbance Survey

Evidence of disturbance at survey sites was recorded for type, severity and estimated time of most recent occurrence. The recording of disturbances was also conducted opportunistically elsewhere within the study area where deemed to be appropriate or of ecological significance.

3.2.7 Watercourse/Wetland Survey

All mapped ordered streams within the study area were assessed to determine if these mapped features were watercourses or drainage features as defined by the *Water Act 2000*. Ordered stream assessments included assessment of the presence/absence of a defined channel with bed and banks, riparian vegetation and hydrophytes. The extent of streams assessed as watercourses was mapped using imagery and/or an Arc Collector derived track log.

If potential wetlands were encountered, they were assessed against the hydrological and biotic criteria of the Queensland Wetland Program wetland definition.

3.2.8 Opportunistic sightings

Incidental fauna observations were recorded while travelling through the study area and between survey sites. The species were identified and recorded.

Additionally, flora species encountered across the study area were recorded, this included any sightings of threatened flora under the EPBC Act or NC Act.

A complete list of fauna and flora identified in the study area is provided in **Appendix G**.

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3.2.9 GIS Analysis

Spatial data collected during the field survey was imported into ArcView GIS (Version 10.2) and analysed against state mapping and other data inputs such as geology mapping and recent aerial imagery. Where necessary, vegetation community and habitat boundaries were refined and/or verified using the collected spatial data to produce final ground-truthed mapping.

TEC condition thresholds associated with patch size were also confirmed through GIS analysis of the final ground-truthed mapping.

3.2.10 Survey Limitations

Several factors are considered likely to influence survey results for species or species groups. These factors are:

- timing (seasons) and duration of the survey period
- weather conditions in the preceding seasons and immediately prior to the survey
- restricted spatial area of the habitats within the study area.

The detectability of plants and the ability to accurately identify plants to species level may vary greatly with the time of year, prevailing climatic conditions and the presence of reproductive material (e.g. flowers, fruit, and seed capsules). Specifically, native grass species can be difficult to identify due to seasonality. In some instances, reproductive material needed to identify plants was scarce. A precautionary approach was therefore taken, and where suitable habitat was identified during the field survey, the species presence remained as a potential. Results of surveys should not be regarded as conclusive evidence that certain protected plants do not occur within the study area.

All fauna assessments are subject to inherent limitations in the detection success of targeted species. These limitations often result in a degree of false-absence records (i.e. a species is present, but not detected). It is important, therefore, that the limitations to surveys are identified and the survey results are viewed with these constraints in mind.

The general limitations to the fauna assessment conducted in the study area may include the following:

- species with large home ranges may not be present in this part of their home range during the survey
- difficulty detecting certain species during the survey period (e.g. cryptic species and species present in the study area in low densities)
- biological factors such as sex, age-class, and breeding biology, which may influence species' habitat use and detectability during different times of year.

In response to these limitations, habitat assessments were undertaken to determine the value of the survey area for supporting such species. Absence of a species was not assumed because it was not detected, but rather a precautionary approach was taken and where suitable habitat was identified during the field survey, the species remained as a potential occurrence.

4. Results and Discussions

This section includes the results of both the database and literature review and field survey. Some information is contained in the appendices and is referenced below.

4.1 Desktop and Literature Review

4.1.1 Desktop assessment

Results of the desktop searches are provided in **Appendix C** to **Appendix F** and are summarised in **Table 3**.

Table 3: Desktop assessment results

Database	Result
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool	• Potential presence of four TECs • Potential presence of 21 threatened species • Potential presence of 10 migratory species
Nature Conservation Act 1992 (NC Act) Protected Species Lists Wildlife Online Database	Within 20 km of the study area: • Record of two Vulnerable fauna species • Record of two Near Threatened fauna species • Record of one Special Least Concern fauna species • Record of one Vulnerable flora species
Department of Natural Resources and Mines (DNRM) Regional Ecosystem and Remnant Mapping version 11	Mapped No Concern at Present REs comprising: • Mixed polygons of RE11.10.9/11.10.11/11.7.2 • Mixed polygons of RE11.10.9/11.10.11/11.7.2 Mapped Of Concern REs comprising: • Mixed polygons of RE11.3.25/11.3.2 (OC/OC) • Mixed polygons of RE11.10.11/11.3.2 (NC/OC) Mapped Endangered REs comprising: • RE11.9.5 • Mixed polygons of RE11.9.5/11.9.10 (E/E)
EHP Map of Referable Wetlands and Wetland Protection Areas	No Wetland Protection Area, High Ecological Significance (HES) or General Ecological Significance (GES) Wetlands are mapped within the study area.
EHP Protected Plants Flora Survey Trigger Map	No high-risk flora survey trigger areas are mapped within the study area.
Environmentally Sensitive Areas map search	Across PL405 several ESAs are mapped. Mapped Category B ESA comprising: • Endangered RE (Remnant Biodiversity Status) Mapped Category C ESA comprising: • Category C Essential Habitat (Golden-tailed Gecko) • Of Concern Regional Ecosystems (Remnant Biodiversity Status) • Sub-dominant wetlands

4.2 Field Survey

4.2.1 Survey Conditions

Weather conditions leading up to and at the time of the survey are presented in **Table 4**. Weather data was obtained from recordings taken at Roma Airport, located approximately 60km south-west of the study area.

Table 4: Weather conditions preceding and during the field survey

Date	Temperature (°C)		Total rainfall (mm)
	Minimum	Maximum	
January 2019	22.8	37.8	0.6
February 2019	20.8	36.5	0.0
March 2019	19.9	34.3	62.4
April 2019	13.7	28.2	63.8
22nd May	14.8	23.7	0.0
23rd May	9.3	24.8	0.0

4.2.2 Commonwealth Environmental Matters

A summary of field survey results for Commonwealth environmental matters (MNES) are outlined in **Table 5**.

Table 5: Commonwealth Environmental Matters – Field Survey Results

Commonwealth environmental matters	Present Y/N	Location	Description (NA if none)	Status	Comments
TEC	Y	A single patch of Brigalow TEC identified in the centre-east of the study area. Located on Lot Plan 49WV614.	Brigalow	Endangered	The TEC is analogous to remnant RE11.9.5
EPBC threat-listed flora	N	NA	NA	NA	
EPBC threat-listed fauna	N	NA	NA	NA	
Migratory species	N	NA	NA	NA	
Marine species	Y	Creek lines and woodland areas across the study area	Magpie Lark (*Grallina cyanoleuca*)	Listed Marine Species	

4.2.2.1 Ground-truthed Threatened Ecological Communities

One TEC was identified during the field survey (**Appendix H, Figure 4**):

- Brigalow (*Acacia harpophylla* dominant and co-dominant).

No other TECs identified within the desktop assessments were identified or considered likely to occur (**Table 6**).

Table 6: TEC Likelihood of occurrence

Threatened Ecological Community	EPBC Act Status	Likelihood of Occurrence
Brigalow (*Acacia harpophylla* dominant and co-dominant)	E	Known. Brigalow TEC was identified within the study area and is analogous to RE 11.9.5
Coolibah – Black Box Woodlands of the Darling Riverine Plains and Brigalow Belt South Bioregions	E	Absent. No Coolibah was located within the study area
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	E	Absent. No SEVT was located within the study area
Weeping Myall Woodlands	E	Absent. No *Acacia pendula* was located within the study area

4.2.2.2 Threatened Flora

No EPBC Act listed threatened flora were recorded during the field survey within the study area.

Table 7 provides a summary of the likelihood of occurrence for threatened flora listed under the EPBC Act. This assessment is based on field observations and species records. The full assessment is provided in **Appendix L**.

Table 7: EPBC Act Threat-listed Flora Likelihood Assessment

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Surianaceae	*Cadellia pentastylis*	Ooline	V	Ooline grows in semi-evergreen vine thickets, Brigalow-belah and poplar box communities on undulating terrain of various geology, including sandstone, conglomerate and claystone.	NA	Unlikely Small patches of suitable habitat occur within the study area, but species was not identified during survey. Known records 10 km north of the study area (ALA 2019).
Poaceae	*Dichanthium setosum*	Bluegrass	V	Associated with heavy basaltic black soils and stony red-brown hardsetting loam with clay subsoil and is found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture.	NA	Unlikely. No suitable habitat occurs within the study area, no records in the wider region (ALA 2019).
Apocynaceae	*Tylophora linearis*	-	E	*Tylophora linearis* grows in dry scrub, open forest and woodlands associated with *Melaleuca uncinata, Eucalyptus fibrosa, E. sideroxylon, E. albens, Callitris endlicheri, C. glaucophylla, Allocasuarina luehmannii, Acacia hakeoides, A. lineata, Myoporum* spp., and *Casuarina* spp.	NA	Unlikely. Marginal habitat within the study area and no records in the wider region (ALA 2019).
Poaceae	*Homopholis belsonii*	Belson's Panic	V	Flat to gently undulating alluvial areas supporting *Casuarina cristata* forest and sometimes *Acacia harpophylla*.	RE11.9.5	Potential. Suitable habitat occurs within the study area. Records in the

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
						wider region (~50km) (ALA 2019).

4.2.2.3 Threatened Fauna

No EPBC Act listed threatened fauna were recorded during the field survey within the study area.

Table 8 provides a summary of the likelihood of occurrence for threatened fauna listed under the EPBC Act. This assessment is based on field observations and species records. The full assessment is provided in **Appendix L.**

Table 8: EPBC Act Threat-listed Fauna Likelihood Assessment

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Invertebrate						
Camaenidae	*Adclarkia dulacca*	Dulacca Woodland Snail	E	The species inhabits a variety of remnant and scattered habitats, such as vine thicket and Acacia harpophylla (brigalow) woodland patches on rocky outcrops with clay to loam soils as well as *Eucalyptus* (ironbark) species and *Acacia shirleyi* (lancewood) woodlands on ridges (with and without rock), and *Eucalyptus woollsiana* (gum-topped box) woodland. Lives under rocks and timber and requires both canopy and on-ground timber cover for survival and egg-laying.	NA	Unlikely. No suitable habitat or records nearby.
Birds						

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Scolopacidae	*Calidris ferruginea*	Curlew Sandpiper	CE, Mi	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	NA	Unlikely. No suitable habitat or records nearby.
Accipitridae	*Erythrotriorchis radiatus*	Red Goshawk	V	The Red Goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia. The species nests in large trees within 1 km of permanent water source.	NA	Unlikely. No suitable habitat. Species range now severely retracted.
Rostratulidae	*Rostratula australis*	Australian Painted Snipe	E	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.	NA	Unlikely. No suitable habitat.
Columbidae	*Geophaps scripta scripta*	Squatter Pigeon	V	The Squatter Pigeon prefers open forest habitat to sparse open woodlands and scrub that are remnant, regrowth or partly modified, dominated by *Eucalyptus, Corymbia, Acacia* or *Callitris* spp. and within 3 km of water bodies. They prefer well-draining, sandy or loamy soils on gently sloping flat to undulating plains and foothills.	RE11.10.9, 11.10.7a, 11.10.7, 11.10.11, 11.7.7	Likely. Suitable habitat. Records in the wider region (~40 km)
Meliphagidae	*Grantiella picta*	Painted Honeyeater	V	Painted Honeyeater diet consists of mainly mistletoe fruits and prefers woodlands that contain a high number of mature trees that support an abundance of mistletoe.	11.10.11, 11.3.25	Potential Suitable habitat. Records in the wider region (~40 km)
Mammals						

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Vespertilionidae	*Chalinolobus dwyeri*	Large-eared Pied bat	V	Large-eared Pied Bat requires cliffs and fertile woodland valley habitat within close proximity of each other. Rainforests and moist eucalypt forest habitats or high elevation. Sandstone cliffs and escarpments are often used as roosting habitat.	NA	Unlikely. No suitable habitat or records nearby.
Dasyuridae	*Dasyurus hallucatus*	Northern Quoll	E	Habitat features include high relief areas that have shallower soils, boulders and rocky areas for denning, low fire impact and close to permanent water. The species occupies a diversity of habitats across its range including Eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert.	NA No suitable habitat (rocky denning areas) within the study area	Unlikely. No suitable habitat or records nearby.
Vespertilionidae	*Nyctophilus corbeni*	Corben's Long-eared Bat	V	Corben's Long-eared Bat is known to use a variety of habitats, including those dominated by Callitris spp., Brigalow, Belah and Bulloke. The species has also been found to be much more abundant in habitats that have a distinct tree canopy and a dense, cluttered understorey layer	RE11.10.9, 11.10.7a, 11.9.5, 11.10.11, 11.3.18	Potential. Suitable habitat. Records in the wider region (~60 km)
Petauridae	*Petauroides volans*	Greater Glider	V	Greater Glider is found where there is an abundance of old-growth trees with hollows. The species favours habitats with a variety of eucalypt species.	RE11.3.2, 11.3.25	Potential Suitable habitat within the study area. Records within the wider region (~50 km)

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Phascolarctidae	*Phascolarctos cinereus*	Koala	V	Koalas inhabit a range of temperate, sub-tropical and tropical forests dominated by *Eucalyptus* spp. Koala habitat is defined as woodlands containing known Koala food trees, or shrublands with emergent food trees. Preferred food and shelter trees often occur on fertile clay soils.	11.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.7	Likely. Suitable habitat within the study area. Records within the wider region (~20 km)
Reptiles						
Pygopodidae	*Delma torquata*	Collared Delma	V	The species requires the presence of rocks, logs, bark and other coarse woody debris and mats of litter.	11.7.7, 11.10.7, 11.10.11	Potential. Marginal habitat within the study area, records in the wider region (~60 km).
Elapidae	*Denisonia maculata*	Ornamental Snake	V	The species preys on frogs and requires habitats within close proximity to its food resource. Commonly found in gilgai depressions with cracking clays and an abundance of fallen woody debris in the Brigalow Belt.	NA	Unlikely. No suitable habitat within the study area and is outside of the species known range.
Scincidae	*Egernia rugosa*	Yakka Skink	V	The Yakka Skink is known to occur in open dry sclerophyll forest, woodland and scrub. Requires cavities under and between partly buried rocks, logs or tree stumps or abandoned animal burrows for shelter.	RE11.7.7, 11.10.7, 11.10.7a, 11.10.11, 11.9.7	Potential. Suitable habitat and records in the wider region (~20 km) Habitat associated with RE11.10.9 is considered too sandy to form suitable burrows.

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Elapidae	*Furina dunmalli*	Dunmall's Snake	V	Dunmall's Snake has been found in a broad range of habitats, including black alluvial cracking clays, clay loams dominated by Brigalow, Callitris spp. and Bulloke, as well as open forests on sandstone derived soils dominated by *Callitris glaucophylla* and Bulloke.	RE11.10.9, 11.10.7a, 11.10.11, 11.9.5	Potential. Marginal habitat. Records in the wider region (~50 km)
Chelidae	*Rheodytes leukops*	Fitzroy River Turtle	V	The Fitzroy River Turtle is found in rivers with large deep pools with rocky, gravelly or sandy substrates, connected by shallow riffles	NA	Unlikely. No suitable habitat.
Fish						
Percichthyidae	*Maccullochella peelii*	Murray Cod	V	Murray Cod utilises a variety of habitats, ranging from clear rocky streams to slow-flowing, turbid lowland rivers and billabongs. The species is considered a main-channel specialist. Preferred microhabitat features include large rocks, snags, overhanging stream banks and vegetation, tree stumps, logs, branches and other woody structures.	NA	Unlikely. No suitable habitat

4.2.2.4 Migratory Fauna

No EPBC Act listed migratory fauna were recorded during the field survey within the study area.

Table 9 provides a summary of the likelihood of occurrence for migratory fauna listed under the EPBC Act. This assessment is based on field observations and species records. The full assessment is provided in **Appendix L.**

Table 9: EPBC Act Migratory Fauna Likelihood Assessment

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within the study area	Likelihood of occurrence
Scolopacidae	*Actitis hypoleucos*	Common Sandpiper	Mi	The Common Sandpiper utilises coastal and inland wetlands. Mostly found around muddy margins or rocky shores and rarely on mudflats. The species has been recorded in estuaries and deltas of streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties. The muddy margins utilised by the species are often narrow, and may be steep	NA	Unlikely. No suitable habitat
Apodidae	*Apus pacificus*	Fork-tailed Swift	Mi	The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground. The species often occurs over dry or open habitats, inland plains and riparian woodlands.	11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Potential Exclusively aerial species.
Scolopacidae	*Calidris acuminata*	Sharp-tailed Sandpiper	Mi	Widespread across the coast and inland, preferring muddy edges of shallow fresh or brackish wetlands with inundated or emergent sedges, grasses, saltmarsh or other low vegetation.	NA	Unlikely. No suitable habitat.
Scolopacidae	*Calidris ferruginea*	Curlew Sandpiper	CE, Mi	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	NA	Unlikely. No suitable habitat.

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Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within the study area	Likelihood of occurrence
Scolopacidae	*Calidris melanotos*	Pectoral Sandpiper	Mi	Most records occur around Cairns with scattered records elsewhere. Prefers shallow fresh to saline wetlands such as coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	NA	Unlikely. No suitable habitat.
Cuculidae	*Cuculus optatus*	Oriental Cuckoo	Mi	Monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands.	NA	Unlikely. No suitable habitat.
Scolopacidae	*Gallinago hardwickii*	Latham's Snipe	Mi	Monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands. The species inhabits wetlands with low, dense vegetation and grasslands or riparian corridors.	NA	Unlikely. No suitable habitat.
Apodidae	*Hirundapus caudacutus*	White-throated Needletail	Mi	Recorded in all coastal regions of Qld and is almost exclusively aerial (1-1000 m above ground), occurring over a variety of habitats with a preference for wooded areas.	11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Potential Almost exclusively aerial.
Motacillidae	*Motacilla flava*	Yellow Wagtail	Mi	Occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, sewage farms and bogs to damp steppe and grassy tundra	NA	Unlikely. No suitable habitat.

Family	Scientific Name	Common Name	EPBC Act Status	Habitat	Potentially Suitable RE within the study area	Likelihood of occurrence
Dicruridae	*Myiagra cyanoleuca*	Satin Flycatcher	Mi	Widespread but scattered in the east. Mainly inhabits eucalypt forests, often near wetlands or watercourses. They also occur in eucalypt woodlands with open understorey and grass ground cover, and are generally absent from rainforest	NA	Unlikely No suitable habitat

4.2.3 Queensland Environmental Matters

4.2.3.1 Field Survey Results

A summary of field survey results for Queensland environmental matters are outlined in **Table 10**.

Table 10: Queensland Environmental Matters – Field Results

State environmental matters	Present Y/N	Location	Description
Endangered regional ecosystems	Y	One Endangered RE located on Lot Plan 49WV614 and 51WV616	RE11.9.5
Of concern regional ecosystems	Y	Three Of Concern REs identified across the study area on Lot Plan 2WV613, 41WV1798, 49WV614, 50WV616 and 51WV616	RE11.3.2, 11.3.25, 11.9.7
NC Act listed flora (EVNT)	N	NA	NA
NC Act listed fauna (EVNT)	N	NA	NA
Special Least Concern plants (SLC)	Y	Four species of SLC flora were observed throughout the study area. The species were observed scattered throughout remnant vegetation.	*Cymbidium canaliculatum, Cheilanthes sieberi, Brachychiton populneus, Brachychiton rupestris*
Special Least Concern (SLC) fauna	Y	One SLC fauna species was observed in the study area	*Tachyglossus aculeatus* Short-beaked echidna

4.2.3.2 Ground-truthed Regional Ecosystems

DNRM state mapping identified the following REs within the study area (shown in **Appendix E, Figure 3):**

- Mixed polygons of REs:
  - RE11.10.9/11.10.11/11.7.2
  - RE11.10.11/11.3.2
  - RE11.3.25/11.3.2
  - RE11.9.5/11.9.10
- Homogeneous polygons of REs:
  - RE11.9.5 (100).

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Ten REs were ground-truthed within the study area (**Table 11**) and shown in **Appendix I, Figure 5.** Of these, one is an Endangered RE (11.9.5), three are Of Concern REs (11.3.2, 11.3.25 and 11.9.7) and the remainder are No Concern at Present REs.

Table 11: Ground-truthed Regional Ecosystems

RE	REDD	Field description and condition	Biodiversity Status
11.3.18	*Eucalyptus populnea, Callitris glaucophylla, Allocasuarina luehmannii* shrubby woodland on alluvium	Remnant. Open forest dominated by *Eucalyptus populnea* or *Eucalyptus chloroclada*, with associated *Eucalyptus crebra* or *Corymbia tessellaris*. A sparse understory dominated by *Allocasuarina luehmannii* associated with *Callitris glaucophylla, Acacia leiocalyx* and *Geijera parviflora.* Very sparse to mid-dense shrub layer dominated by *Callitris glaucophylla associated with Carissa ovata, or Eremophila mitchellii associated with Acacia excelsa.* Mid-dense ground cover dominated by *Cenchrus ciliaris* with *Aristida caput-medusae* also common.	No concern at present
11.3.2	*Eucalyptus populnea* woodland on alluvial plains	Remnant. Woodland dominated by *Eucalyptus populnea* with occasional *Corymbia tessellaris*. Sparse to mid-dense understory of *Eremophila mitchellii*, *Callitris glaucophylla* or *Eucalyptus populnea*. Sparse to mid-dense shrub layer dominated by *Geijera parviflora*, associated with *Acacia excelsa*, *Acacia salicina*, *Eremophila mitchellii* and *Allocasuarina luehmannii*. Ground cover dominated by *Cenchrus ciliaris* or *Melinis repens*.	Of Concern
11.3.25	*Eucalyptus tereticornis* or E. camaldulensis woodland fringing drainage lines	Remnant. Open forest *Eucalyptus camaldulensis* sometimes associated with *Eucalyptus populnea*. Sparse shrub layer dominated by *Geijera parviflora*, *Acacia excelsa* and *A. salicina*. Ground layer dominated by *Megathyrsus maximus* with *Lomandra longifolia*, *Heteropogon contortus*, *Cenchrus ciliaris* and *Arundinella nepalensis*.	Of Concern
11.7.7	*Eucalyptus fibrosa* subsp. *nubila* +/- *Corymbia* spp. +/- *Eucalyptus* spp. woodland on Cainozoic lateritic duricrust	Remnant. Occurring on the lower slopes of lateritic jump-ups, dominated by *Eucalyptus crebra or E. fibrosa subsp. nubila*, with associated *Angophora leiocarpa* or *Callitris glaucophylla.* Sparse to mid-dense understory of *Callitris glaucophylla* and *Acacia shirleyi or Allocasuarina luehmannii.* Ground cover very sparse to sparse, dominated by *Ancistrachne uncinulata* or *Aristida caput-medusae*.	No concern at present
11.9.5	*Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks	Remnant and Regrowth. Condition of this vegetation community varied across the study area and often consisted of small remnants remaining from broadscale clearing and linear patches with high buffel grass incursion. Patches were dominated by *Acacia harpophylla* or *Casuarina cristata.* Very sparse to mid-dense shrub layer of *Eremophila mitchellii, Geijera parviflora* or *Carissa ovata*. Very sparse to mid-dense	Endangered

RE	REDD	Field description and condition	Biodiversity Status
		groundcover or dominated with *Cenchrus ciliaris*, with other species including *Ancistrachne uncinulata* or *Paspalidium spp.*	
11.9.7	*Eucalyptus populnea, Eremophila mitchellii* shrubby woodland on fine-grained sedimentary rocks	Remnant and Regrowth. Sparse to mid-dense canopy dominated by *Eucalyptus populnea* associated with *Casuarina cristata.* Shrub layer dominated by *Geijera parviflora* or *Eremophila mitchellii* or *Carissa ovata*. Sparse to mid-dense ground cover dominated by *Cenchrus ciliaris* or *Aristida calycina*.	Of concern
11.10.7	*Eucalyptus crebra* woodland on coarse-grained sedimentary rocks	Remnant. Dominated by *Eucalyptus crebra* associated with *Eucalyptus populnea*, *Angophora leiocarpa* and *Corymbia tessellaris*. Sparse to mid-dense understory dominated by *Allocasuarina luehmannii*, *Corymbia clarksoniana*; or *Eucalyptus chloroclada* associated with *Corymbia clarksoniana* and *Eucalyptus populnea.* Shrub layer sometimes dominated by *Carissa ovata* or *Eremophila mitchellii* or *Acacia* spp. Ground cover dominated by *Aristida caput-medusae* or *Cenchrus ciliaris*.	No concern at present
11.10.7a	*Eucalyptus crebra +/- Callitris glaucophylla +/- Angophora leiocarpa +/- Eucalyptus* spp. woodland.	Remnant. Sparse to mid-dense canopy dominated by either *Eucalyptus crebra* associated with *Angophora leiocarpa* or *Callitiris glaucophylla. Allocasuarina luehmannii* is common in the lower tree layer. *Acacia* spp. are common in the sparse shrub layer. Ground layer is commonly dominated by *Aristida caput-medusae*, *Cenchrus ciliaris* or *Paspalidium* sp.	No concern at present
11.10.9	*Callitris glaucophylla* woodland on coarse-grained sedimentary rocks	Remnant. Very sparse *Callitris glaucophylla* dominates canopy with occasional *Eucalyptus chloroclada* and/or *Corymbia sp*. Sparse shrub layer consisting of *Acacia sp.*. Ground cover very sparse, dominated by *Aristida caput-medusae.*	No concern at present
11.10.11	*Eucalyptus populnea, E. melanophloia +/- Callitris glaucophylla* woodland on coarse-grained sedimentary rocks	Remnant. Canopy dominated by *Eucalyptus populnea* with occasional *E. chloroclada. Geijera parviflora, Eremophila mitchellii* and *Callitris glaucophylla* common in the shrub layer. Very sparse to mid-dense groundcover dominated by *Aristida caput-medusae or Cenchrus ciliaris*.	No concern at present

4.2.3.3 Threatened Flora

No NC Act Endangered, Vulnerable or Near Threatened (EVNT) flora species were identified within the study area.

Table 12 provides a summary of the likelihood of occurrence for EVNT and SLC flora species under the NC Act. This assessment is based on field observations and species records. The full assessment is provided in **Appendix L.**

Table 12: NC Act EVNT flora species likelihood of occurrence assessment

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Surianaceae	*Cadellia pentastylis*	Ooline	V	Ooline grows in semi-evergreen vine thickets, Brigalow-belah and poplar box communities on undulating terrain of various geology, including sandstone, conglomerate and claystone.	RE11.9.5	Unlikely. Species was not observed during the field survey. Small areas of suitable habitat occur within the study area. Known records 10 km north of the study area (ALA 2019).
Apocynaceae	*Tylophora linearis*	-	E	*Tylophora linearis* grows in dry scrub, open forest and woodlands associated with *Melaleuca uncinata, Eucalyptus fibrosa, E. sideroxylon, E. albens, Callitris endlicheri, C. glaucophylla, Allocasuarina luehmannii, Acacia hakeoides, A. lineata, Myoporum* spp., and *Casuarina* spp.	NA	Unlikely. Marginal habitat within the study area and no records in the wider region (ALA 2019).
Poaceae	*Homopholis belsonii*	Belson's Panic	E	Flat to gently undulating alluvial areas supporting *Casuarina cristata* forest and sometimes *Acacia harpophylla*	RE11.9.5	Potential. Suitable habitat occurs within the study area. Records in the wider region (~50 km) (ALA 2019).

4.2.3.4 Threatened Fauna

No NC Act Endangered, Vulnerable or Near Threatened (EVNT) fauna species were identified within the study area during the survey.

Table 13 provides a summary of the likelihood of occurrence for EVNT fauna species under the NC Act. This assessment is based on field observations and species records. The full assessment is provided in **Appendix L.**

Table 13: NC Act EVNT fauna species likelihood of occurrence assessment

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Pythonidae	*Aspidites ramsayi*	Woma	NT	Woma is found in desert dune fields and on sandy plains with hummock grasses. Is also known to occur on black soils and in stony ridge country. Woma is a ground dweller that seeks shelter in hollow logs, animal burrows or thick herbage during the day.	RE11.10.9, 11.10.7, 11.9.5, 11.10.7a, 11.10.11, 11.7.7.	Likely. Suitable habitat, known records near the study area (<20 km)
Scolopacidae	*Calidris ferruginea*	Curlew Sandpiper	E	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	NA	Unlikely. No suitable habitat or records nearby.
Cacatuidae	*Calyptorhynchus lathami lathami*	Glossy-black Cockatoo	V	Glossy-black Cockatoo prefers woodlands dominated by *Allocasuarina* and *Casuarina* spp. The species feeds almost exclusively on the seeds of these trees.	RE11.9.5, 11.10.9, 11.7.7 where Belah or Bulloke may be dominant	Likely. Suitable habitat and known records near the study area (<20 km)
Vespertilionidae	*Chalinolobus dwyeri*	Large-eared Pied bat	V	Large-eared Pied Bat requires cliffs and fertile woodland valley habitat within close proximity of each other. Rainforests and moist eucalypt forest habitats or high elevation. Sandstone cliffs and escarpments are often used as roosting habitat.	NA	Unlikely. No suitable habitat or records nearby.
Pygopodidae	*Delma torquata*	Collared Delma	V	The species requires the presence of rocks, logs, bark and other coarse woody debris and mats of litter.	11.7.7, 11.10.7, 11.10.11	Potential.

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
						Marginal habitat within the study area, records in the wider region (~60 km).
Elapidae	*Denisonia maculata*	Ornamental Snake	V	The species preys on frogs and requires habitats within close proximity to its food resource. Commonly found in gilgai depressions with cracking clays and an abundance of fallen woody debris in the Brigalow Belt.	NA	Unlikely. No suitable habitat within the study area and is outside of the species known range.
Scincidae	*Egernia rugosa*	Yakka Skink	V	The Yakka Skink is known to occur in open dry sclerophyll forest, woodland and scrub. Requires cavities under and between partly buried rocks, logs or tree stumps or abandoned animal burrows for shelter.	RE11.7.7, 11.10.7, 11.10.7a, 11.10.11, 11.9.7	Potential. Suitable habitat and records in the wider region (~20 km) Habitat associated with RE11.10.9 is considered too sandy to form suitable burrows.
Accipitridae	*Erythrotriorchis radiatus*	Red Goshawk	E	The Red Goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia. The species nests in large trees within 1km of permanent water source.	NA	Unlikely. No suitable habitat. Species range now severely retracted.
Elapidae	*Furina dunmalli*	Dunmall's Snake	V	Dunmall's Snake has been found in a broad range of habitats, including black alluvial cracking clays, clay loams dominated by Brigalow, Callitris spp. and Bulloke, as well as open forests on sandstone derived soils dominated by Callitris glaucophylla and Bulloke.	RE11.10.9, 11.10.7a, 11.10.11, 11.9.5	Potential. Marginal habitat. Records in the wider region (~50 km)
Columbidae	*Geophaps scripta scripta*	Squatter Pigeon	V	The Squatter Pigeon prefers open forest habitat to sparse open woodlands and scrub that are remnant, regrowth or partly modified, dominated by *Eucalyptus, Corymbia, Acacia* or *Callitris* spp. and within 3 km of water bodies. They prefer well drained, sandy or loamy soils on gently sloping flat to undulating plains and foothills.	RE11.10.9, 11.10.7a, 11.10.11, 11.7.7	Likely. Suitable habitat. Records in the wider region (~40 km)

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Meliphagidae	*Grantiella picta*	Painted Honeyeater	V	Painted Honeyeater diet consists of mainly mistletoe fruits and prefers woodlands that contain a high number of mature trees that support an abundance of mistletoe.	11.10.11, 11.3.25	Potential Suitable habitat. Records in the wider region (~40 km)
Vespertilionidae	*Nyctophilus corbeni*	Corben's Long-eared Bat	V	Corben's Long-eared Bat is known to use a variety of habitats, including those dominated by Callitris spp., Brigalow, Belah and Bulloke. The species has also been found to be much more abundant in habitats that have a distinct tree canopy and a dense, cluttered understorey layer	RE11.10.9, 11.10.7a, 11.9.5, 11.10.11, 11.3.18	Potential. Suitable habitat. Records in the wider region (~60 km)
Petauridae	*Petauroides volans*	Greater Glider	V	Greater Glider is found where there is an abundance of old-growth trees with hollows. The species favours habitats with a variety of eucalypt species.	RE11.3.2, 11.3.25	Potential Suitable habitat within the study area. Records within the wider region (~50 km)
Phascolarctidae	*Phascolarctos cinereus*	Koala	V	Koalas inhabit a range of temperate, sub-tropical and tropical forests dominated by Eucalyptus spp. Koala habitat is defined as woodlands containing known Koala food trees, or shrublands with emergent food trees. Preferred food and shelter trees often occur on fertile clay soils.	RE1.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.7	Likely. Suitable habitat within the study area. Records within the wider region (20 km)
Chelidae	*Rheodytes leukops*	Fitzroy River Turtle	V	The Fitzroy River Turtle is found in rivers with large deep pools with rocky, gravelly or sandy substrates, connected by shallow riffles	NA	Unlikely. No suitable habitat.
Rostratulidae	*Rostratula australis*	Australian Painted Snipe	V	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.	NA	Unlikely. No suitable habitat.
Diplodactylidae	*Strophurus taenicauda*	Golden-tailed Gecko	NT	The golden-tailed gecko lives in open woodland and open forest where it shelters under loose bark and hollow limbs. Species shelters under loose bark or	RE11.10.9, 11.10.7a, 11.9.5	Likely. Suitable habitat and one known record within 2km of the study

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
				in hollows. Often found in *Callitris* spp. and Bulloke woodlands.		area (recorded in RE11.7.2 in 2009) (ALA 2019).

4.2.3.5 Special Least Concern Species

One NC Act Special Least Concern (SLC) fauna species and four SLC flora species were confirmed within the study area.

Table 14 provides a summary of the likelihood of occurrence for SLC flora and fauna species under the NC Act. This assessment is based on field observations and species records. The full assessment is provided in **Appendix L**.

Table 14: NC Act SLC flora and fauna species likelihood of occurrence assessment

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within the study area	Likelihood of occurrence
Fauna						
Apodidae	*Apus pacificus*	Fork-tailed Swift	SLC	The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground. The species often occurs over inland plains.	11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Potential Exclusively aerial species.
Cuculidae	*Cuculus optatus*	Oriental Cuckoo	SLC	Monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands.	NA	Unlikely. No suitable habitat.
Scolopacidae	*Gallinago hardwickii*	Latham's Snipe	SLC	Monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands. The species inhabits wetlands with low, dense vegetation and grasslands or riparian corridors.	NA	Unlikely. No suitable habitat.
Apodidae	*Hirundapus caudacutus*	White-throated Needletail	SLC	Recorded in all coastal regions of Qld and is almost exclusively aerial (1-1000 m above	11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.3.18, 11.3.2,	Potential Almost exclusively aerial.

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within the study area	Likelihood of occurrence
				ground), occurring over a variety of habitats with a preference for wooded areas.	11.3.25, 11.7.7, 11.9.5, 11.9.7	
Motacillidae	*Motacilla flava*	Yellow Wagtail	SLC	Occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, sewage farms and bogs to damp steppe and grassy tundra	NA	Unlikely. No suitable habitat.
Dicruridae	*Myiagra cyanoleuca*	Satin Flycatcher	SLC	Widespread but scattered in the east. Mainly inhabits eucalypt forests, often near wetlands or watercourses. They also occur in eucalypt woodlands with open understorey and grass ground cover, and are generally absent from rainforest	NA	Unlikely No suitable habitat
Tachyglossidae	*Tachyglossus aculeatus*	Short-beaked Echidna	SLC	Inhabits a wide range or terrestrial habitat wherever there are plentiful food sources (ants or termites), including desert, rainforest, open forest, bushland, farmland and urban areas.	11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Known. One individual was identified within the study area.
Flora						
Sterculiaceae	*Brachychiton populneus*	Kurrajong	SLC	The species occurs in a wide range of habitats and soils, from deep sandy loams on plains, to skeletal types on rocky hilltops.	RE11.9.5, 11.7.7	Known. The species was found in numerous locations across the study area.
Sterculiaceae	*Brachychiton rupestris*	Narrow-leaved Bottle Tree	SLC	The species occurs in a wide range of habitats and soils, from deep sandy loams on plains, to skeletal types on rocky hilltops.	RE11.9.5	Known. The species was found in numerous locations across the study area.
Adiantaceae	*Cheilanthes sieberi*	Mulga Fern	SLC	The species grows in arid and non-arid areas, in exposed rocky habitats, in rock crevices or shelter of rocks, quite often in open grazing country.	RE11.7.7	Known.

Family	Scientific Name	Common Name	NC Act Status	Habitat	Potentially Suitable RE within the study area	Likelihood of occurrence
						The species was found in numerous locations across the study area.
Orchidaceae	*Cymbidium canaliculatum*	Black Orchid	SLC	Occurs predominantly in open sclerophyll forests and woodlands. Grows as an epiphyte in trees where it grows in tree forks or hollows	RE11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.7.7, 11.9.7, 11.9.5	Known. The species was found in numerous locations across the study area.

4.2.3.6 Pest Flora

Two Restricted Matter (Category 3) and Weeds of National Significance (WoNS) were identified within the study area(*Opuntia tomentosa* and *Opuntia stricta*). Their occurrence across the study area was generally low.

A separate weed report has been prepared detailing the location and abundance of weeds identified within the study area (ELA 2019).

4.2.3.7 Pest Fauna

The occurrence of three pest fauna species were identified within the study area by direct and indirect methods, being:

- *Sus scrofa* (wild boar/pig) – digging / rooting
- *Lepus europaeus (*European brown hare*)* – observed
- *Oryctolagus cuniculus* (rabbit) – scats observed.

4.2.4 Disturbance

Recent maintenance clearing was observed across the study area. Recent clearing has occurred within Lot Plan 49WV614 (East) in the north-east of the study area and varied from the most recent aerial imagery that could be obtained.

Minimal selective logging has also occurred throughout the study area, mostly associated with *Callitris glaucophylla* and *E. fibrosa* dominated communities (RE11.10.9 and RE11.7.7 respectively) which has altered vegetation structure in some areas. Where logging has occurred over long periods of time, the removal of tall canopy trees has allowed the structure to become more mid-dense in the understory and tall shrub layer. Fire may also contribute to this vegetation trend. Recent logging in other areas has created a more open canopy.

4.2.5 Watercourses and Wetlands

Mapped stream orders located within the study area were inspected and features were confirmed in accordance with the *Water Act 2000*.

Stream orders associated with Cattle Creek that bisect the study area (west to east) met the definition of a watercourse. Generally, smaller stream orders did not meet the definition of a watercourse and were ground-truthed as drainage lines.

Location of water feature assessments are shown in **Appendix B, Figure 2** and ground-truthed watercourses and drainage features are shown in **Appendix K, Figure 7.**

4.2.6 Essential Habitat

Mapped Essential Habitat located within LotPlan 49WV614 was ground-truthed as RE11.10.7a. This habitat was confirmed as essential habitat for Golden-tailed gecko.

5. Conclusions

An ecological survey was undertaken within the Development Package (DP) 103 (the study area), approximately 60 km north-east of Roma. Surveys were undertaken between the 23rd and 24th April 2019 by two ecologists. The following is a summary of ecological and environmental values which were recorded during the field surveys. Likelihood of occurrence assessments are based on field results, identification of habitat features, and previous species records.

- One EPBC Act listed TEC was confirmed within the study area:
  - Brigalow (*Acacia harpophylla* dominant and co-dominant) was recorded in one patch in the centre-east of the study area. This TEC consisted of remnant patch of RE 11.9.5 which met the diagnostic and condition thresholds of the Brigalow TEC.
- No EPBC Act listed threatened flora species were recorded during the survey. However, likelihood of occurrence assessment found:
  - one species was considered potentially occurring *Homopholis belsonii* (Belson's Panic).
- No EPBC Act listed threatened fauna or migratory species were recorded during the survey. However, likelihood of occurrence assessment found:
  - two threatened fauna species were considered likely occurring; *Geophaps scripta scripta* (Squatter Pigeon) and *Phascolarctos cinereus* (Koala).
  - six threatened fauna species were considered potentially occurring; *Delma torquata* (Collared Delma), *Egernia rugosa* (Yakka Skink), *Furina dunmalli* (Dunmall's Snake), *Grantiella picta* (Painted Honeyeater), *Nyctophilus corbeni* (Corben's Long-eared Bat), and *Petauroides volans* (Greater Glider).
  - two migratory species were considered potentially occurring; *Apus pacificus* (Fork-tailed Swift*), and Hirundapus caudacutus* (White-throated Needletail).
- DNRM mapping identified four mixed and one homogenous RE polygons to be present within the study area, made up of seven different REs across Land Zones (LZ) 3, 7, 9 and 10. Vegetation communities within the study area were ground-truthed and a total of 10 REs were identified as occurring across LZ 3, 7, 9 and 10. One of these communities (RE 11.9.5) has an Endangered biodiversity status. Three of these communities (RE 11.3.2, 11.3.25 and 11.9.7) have an Of Concern biodiversity status. The remaining seven REs have a No concern at present Biodiversity status.
- No NC Act threatened flora species were observed during the field surveys, four SLC species were identified. Likelihood of occurrence assessment found:
  - one species was considered potentially occurring *Homopholis belsonii* (Belson's Panic).
  - four SLC flora species were identified; *Brachychiton populneus* (Kurrajong)*, Brachychiton rupestris* (Narrow-leaved Bottle Tree)*, Cheilanthes sieberi* (Mulga Fern) and *Cymbidium canaliculatum* (Black Orchid).
- No NC Act threatened fauna species were observed during the field surveys, one SLC species was identified. Likelihood of occurrence assessment found:
  - five species were considered likely to occur; *Aspidites ramsayi* (Woma), *Calyptorhynchus lathami lathami* (Glossy-black Cockatoo) and *Phascolarctos cinereus* (Koala), *Strophurus taenicauda* (Golden-tailed Gecko)

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  - six threatened fauna species were considered potentially occurring; *Delma torquata* (Collared Delma), *Egernia rugosa* (Yakka Skink), *Furina dunmalli* (Dunmall's Snake), *Nyctophilus corbeni* (Corben's Long-eared Bat), *Granitella picta* (Painted Honeyeater), and *Petauroides Volans* (Greater Glider)
  - one SLC fauna species was identified (Short-beaked Echidna) and two are considered potentially occurring *Apus pacificus* (Fork-tailed Swift) and *Hirundapus caudacutus* (White-throated Needletail)
- One small area of mapped Essential habitat was ground-truthed during the surveys. This area was confirmed as essential habitat for Golden-tailed Gecko.

It is recommended that the findings in this report are considered during detailed development planning such that disturbance to the ecological values of the study area may be avoided wherever practical. Where disturbance is unavoidable, impact mitigation measures are to be implemented in accordance with the approved Threatened Ecological Community Management Plan, Threatened Flora Management Plan and regulatory approval conditions.

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6. References

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Appendix A Study area and location

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Study area and location

Legend

- Study Area
- Petroleum Lease
- Cadastre
- Public Roads

0 0.25 0.5 1

Kilometres

Datum/Projection:
GDA 1994 MGA Zone 56

N

Prepared by: JD Date: 30/05/2019

N:\19BRI\GIS\13297 Origin DP103 Ecology Survey\MXD\Report\AppendixA_Study area and location.mxd

Appendix B Survey sites

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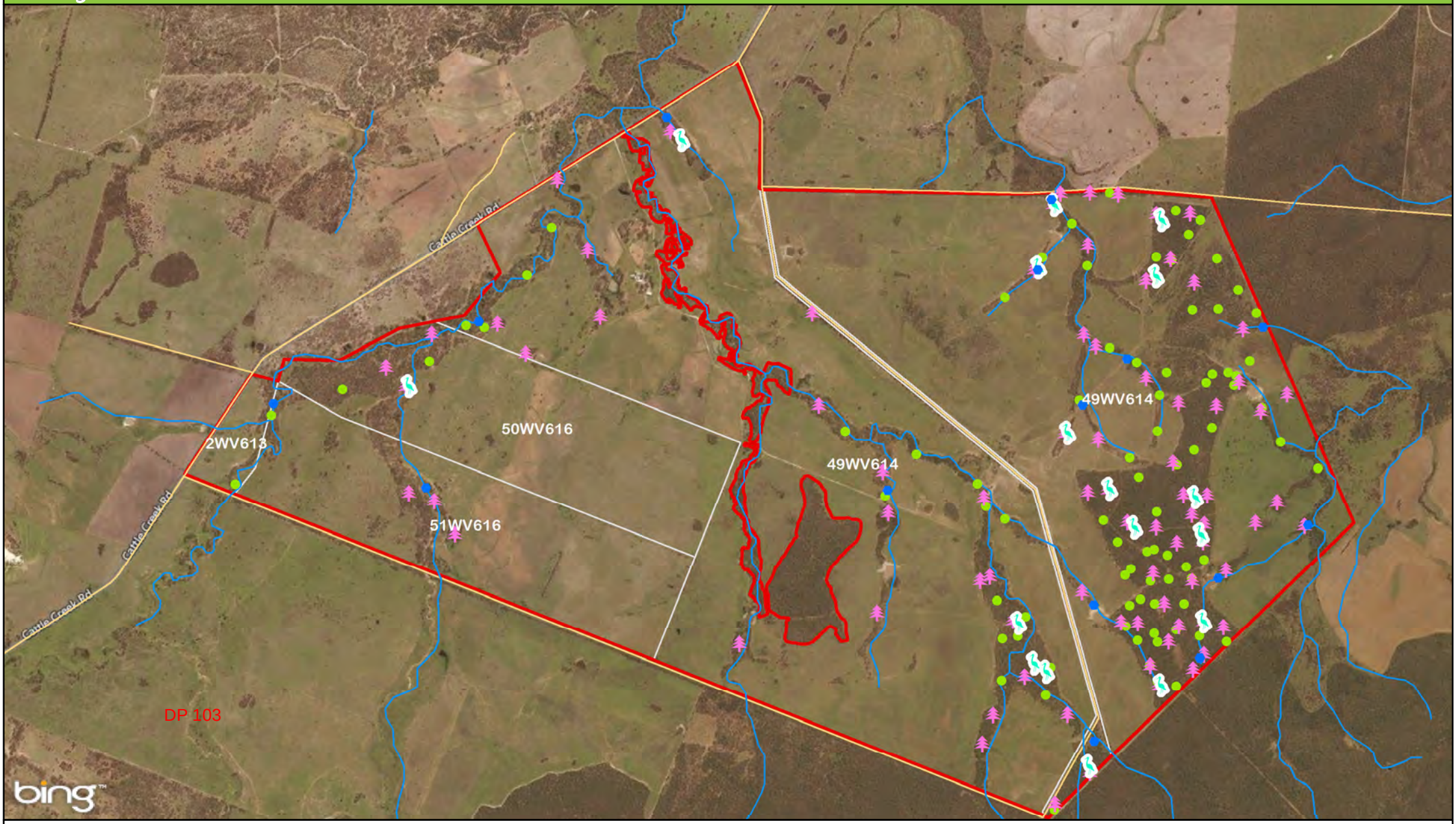
Survey sites



Legend

- General habitat assessment
- Vegetation structure assessment
- Water feature assessment
- Quaternary vegetation assessment
- Water Feature
- Study Area
- Cadastre

0 0.25 0.5 1
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Datum/Projection:
GDA 1994 MGA Zone 56

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Prepared by: JD Date: 30/05/2019

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Appendix C Results of EPBC Protected Matters Search Tool

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Australian Government
Department of the Environment and Energy

EPBC Act Protected Matters Report

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

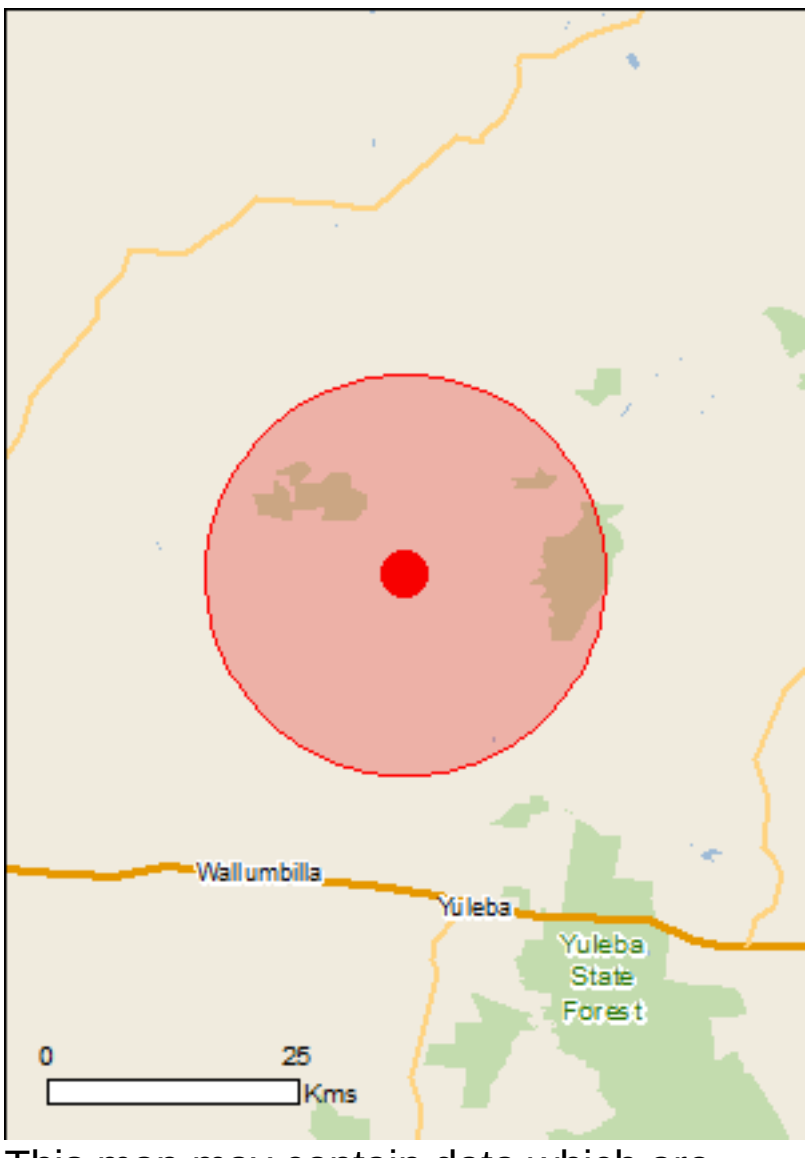
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

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

Report created: 16/05/19 15:37:01

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements



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

Coordinates
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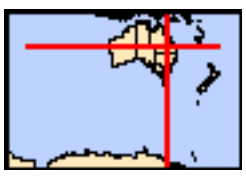

Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	21
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	15
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	18
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Banrock station wetland complex	1200 - 1300km
Narran lake nature reserve	300 - 400km upstream
Riverland	1100 - 1200km
The coorong, and lakes alexandrina and albert wetland	1300 - 1400km

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
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat may occur within area
[Nyctophilus corbeni](#) Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
[Petauroides volans](#) Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Other		
[Adclarkia dulacca](#) Dulacca Woodland Snail [83885]	Endangered	Species or species habitat likely to occur within area
Plants		
[Cadellia pentastylis](#) Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
[Dichanthium setosum](#) bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
[Homopholis belsonii](#) Belson's Panic [2406]	Vulnerable	Species or species habitat may occur within area
[Tylophora linearis](#) [55231]	Endangered	Species or species habitat may occur within area
Reptiles		
[Delma torquata](#) Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
[Denisonia maculata](#) Ornamental Snake [1193]	Vulnerable	Species or species habitat may occur within area
[Egernia rugosa](#) Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area
[Furina dunmalli](#) Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
[Rheodytes leukops](#) Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver [1761]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

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

Name	Threatened	Type of Presence
Migratory Marine Birds		
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
[Cuculus optatus](#) Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]		
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Chrysococcyx osculans Black-eared Cuckoo [705]		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 may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Invasive Species	[Resource Information]

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

Name	Status	Type of Presence
Birds		
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
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
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
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
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		
Acacia nilotica subsp. indica Prickly Acacia [6196]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Prosopis spp. Mesquite, Algaroba [68407]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-26.3454 149.3164

Acknowledgements

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

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

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

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

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Appendix D Wildlife Online Database Search Results

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Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Status: All
Records: All
Date: All
Latitude: -26.3454
Longitude: 149.3164
Distance: 20
Email: jo.davis1@ecoaus.com.au
Date submitted: Thursday 16 May 2019 15:38:24
Date extracted: Thursday 16 May 2019 15:40:14

The number of records retrieved = 404

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		3
animals	amphibians	Hylidae	*Litoria nasuta*	striped rocketfrog		C		1
animals	amphibians	Hylidae	*Cyclorana novaehollandiae*	eastern snapping frog		C		6
animals	amphibians	Hylidae	*Cyclorana platycephala*	water holding frog		C		1
animals	amphibians	Hylidae	*Cyclorana alboguttata*	greenstripe frog		C		11
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		5
animals	amphibians	Hylidae	*Cyclorana verrucosa*	rough collared frog		C		4
animals	amphibians	Hylidae	*Litoria peronii*	emerald spotted treefrog		C		9
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		27
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		181
animals	amphibians	Hylidae	*Cyclorana brevipes*	superb collared frog		C		1
animals	amphibians	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog		C		79
animals	amphibians	Limnodynastidae	*Limnodynastes fletcheri*	barking frog		C		1
animals	amphibians	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog		C		56
animals	amphibians	Limnodynastidae	*Limnodynastes salmini*	salmon striped frog		C		31
animals	amphibians	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk		C		8
animals	amphibians	Myobatrachidae	*Uperoleia rugosa*	chubby gungan		C		3
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		19
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		3
animals	birds	Acanthizidae	*Gerygone olivacea*	white-throated gerygone		C		3
animals	birds	Acanthizidae	*Acanthiza apicalis*	inland thornbill		C		12
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		2
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		2
animals	birds	Acanthizidae	*Acanthiza uropygialis*	chestnut-rumped thornbill		C		4
animals	birds	Acanthizidae	*Chthonicola sagittata*	speckled warbler		C		7
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		6
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Accipiter fasciatus*	brown goshawk		C		2
animals	birds	Aegothelidae	*Aegotheles cristatus*	Australian owlet-nightjar		C		3
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		2
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		1
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		4
animals	birds	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron		C		1
animals	birds	Ardeidae	*Ardea alba modesta*	eastern great egret		C		1
animals	birds	Artamidae	*Cracticus tibicen*	Australian magpie		C		6
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		4
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		2
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		25
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		5
animals	birds	Cacatuidae	*Calyptorhynchus lathami lathami*	glossy black-cockatoo (eastern)		V		2
animals	birds	Cacatuidae	*Eolophus roseicapilla*	galah		C		7
animals	birds	Cacatuidae	*Nymphicus hollandicus*	cockatiel		C		2
animals	birds	Cacatuidae	*Calyptorhynchus banksii*	red-tailed black-cockatoo		C		1
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		3
animals	birds	Campephagidae	*Coracina tenuirostris*	cicadabird		C		1
animals	birds	Campephagidae	*Lalage tricolor*	white-winged triller		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Casuariidae	*Dromaius novaehollandiae*	emu		C		1
animals	birds	Climacteridae	*Cormobates leucophaea*	white-throated treecreeper		C		1
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		2
animals	birds	Columbidae	*Phaps chalcoptera*	common bronzewing		C		3
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		5
animals	birds	Corcoracidae	*Struthidea cinerea*	apostlebird		C		6
animals	birds	Corvidae	*Corvus coronoides*	Australian raven		C		10
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		13
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		1
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		1
animals	birds	Cuculidae	*Cacomantis variolosus*	brush cuckoo		C		1
animals	birds	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo		C		1
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		1
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		1
animals	birds	Eurostopodidae	*Eurostopodus mystacalis*	white-throated nightjar		C		1
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		1
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		2
animals	birds	Falconidae	*Falco subniger*	black falcon		C		1
animals	birds	Gruidae	*Grus rubicunda*	brolga		C		1
animals	birds	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra		C		3
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		2
animals	birds	Maluridae	*Malurus leucopterus*	white-winged fairy-wren		C		1
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		8
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		4
animals	birds	Megaluridae	*Cincloramphus mathewsi*	rufous songlark		C		1
animals	birds	Meliphagidae	*Acanthagenys rufogularis*	spiny-cheeked honeyeater		C		4
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		5
animals	birds	Meliphagidae	*Melithreptus brevirostris*	brown-headed honeyeater		C		1
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		1
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		18
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		2
animals	birds	Meliphagidae	*Nesoptilotis leucotis*	white-eared honeyeater		C		3
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		1
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		2
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		3
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		6
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		2
animals	birds	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird		C		5
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		5
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		2
animals	birds	Otididae	*Ardeotis australis*	Australian bustard		C		2
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		8
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		9
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		10
animals	birds	Petroicidae	*Microeca fascinans*	jacky winter		C		4
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		7

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Petroicidae	*Petroica goodenovii*	red-capped robin		C		1
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		1
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		1
animals	birds	Phasianidae	*Coturnix pectoralis*	stubble quail		C		1
animals	birds	Phasianidae	*Coturnix ypsilophora*	brown quail		C		2
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		1
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		18
animals	birds	Psittacidae	*Barnardius zonarius*	Australian ringneck		C		1
animals	birds	Psittacidae	*Platycercus adscitus*	pale-headed rosella		C		7
animals	birds	Psittacidae	*Psephotus haematonotus*	red-rumped parrot		C		1
animals	birds	Psittacidae	*Northiella haematogaster*	blue bonnet		C		1
animals	birds	Psittacidae	*Aprosmictus erythropterus*	red-winged parrot		C		4
animals	birds	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		1
animals	birds	Psittacidae	*Trichoglossus haematodus moluccanus*	rainbow lorikeet		C		2
animals	birds	Recurvirostridae	*Himantopus himantopus*	black-winged stilt		C		1
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		11
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		3
animals	birds	Timaliidae	*Zosterops lateralis*	silvereye		C		1
animals	mammals	Canidae	*Canis lupus dingo*	dingo				1
animals	mammals	Dasyuridae	*Planigale maculata*	common planigale		C		3
animals	mammals	Dasyuridae	*Sminthopsis murina*	common dunnart		C		5
animals	mammals	Dasyuridae	*Sminthopsis macroura*	stripe-faced dunnart		C		6
animals	mammals	Dasyuridae	*Planigale tenuirostris*	narrow-nosed planigale		C		1
animals	mammals	Dasyuridae	*Sminthopsis crassicaudata*	fat-tailed dunnart		C		1
animals	mammals	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat		C		3
animals	mammals	Macropodidae	*Macropus robustus*	common wallaroo		C		1
animals	mammals	Macropodidae	*Macropus rufogriseus*	red-necked wallaby		C		7
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		5
animals	mammals	Macropodidae	*Macropus dorsalis*	black-striped wallaby		C		1
animals	mammals	Macropodidae	*Wallabia bicolor*	swamp wallaby		C		3
animals	mammals	Molossidae	*Tadarida australis*	white-striped freetail bat		C		2
animals	mammals	Molossidae	*Mormopterus petersi*	inland free-tailed bat		C		1
animals	mammals	Petauridae	*Petaurus breviceps*	sugar glider		C		6
animals	mammals	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum		C		15
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		V	V	1
animals	mammals	Pteropodidae	*Pteropus scapulatus*	little red flying-fox		C		6
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		SL		7
animals	mammals	Vespertilionidae	*Vespadelus vulturnus*	little forest bat		C		1
animals	mammals	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat		C		2
animals	mammals	Vespertilionidae	*Nyctophilus sp.*					1
animals	mammals	Vespertilionidae	*Chalinolobus picatus*	little pied bat		C		2
animals	mammals	Vespertilionidae	*Scotorepens balstoni*	inland broad-nosed bat		C		5
animals	ray-finned fishes	Clupeidae	*Nematalosa erebi*	bony bream				6
animals	ray-finned fishes	Eleotridae	*Hypseleotris sp.*					7
animals	ray-finned fishes	Eleotridae	*Hypseleotris klunzingeri*	western carp gudgeon				2
animals	ray-finned fishes	Eleotridae	*Hypseleotris species 1*	Midgley's carp gudgeon				1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	ray-finned fishes	Melanotaeniidae	*Melanotaenia fluviatilis*	Murray River rainbowfish				6
animals	ray-finned fishes	Percichthyidae	*Macquaria ambigua*	golden perch				1
animals	ray-finned fishes	Terapontidae	*Leiopotherapon unicolor*	spangled perch				10
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		79
animals	reptiles	Boidae	*Antaresia maculosa*	spotted python		C		15
animals	reptiles	Boidae	*Morelia spilota*	carpet python		C		11
animals	reptiles	Boidae	*Aspidites ramsayi*	woma		NT		2
animals	reptiles	Chelidae	*Chelodina longicollis*	eastern snake-necked turtle		C		5
animals	reptiles	Chelidae	*Emydura macquarii macquarii*	Murray turtle		C		1
animals	reptiles	Colubridae	*Dendrelaphis punctulatus*	green tree snake		C		1
animals	reptiles	Colubridae	*Boiga irregularis*	brown tree snake		C		1
animals	reptiles	Diplodactylidae	*Strophurus taenicauda*	golden-tailed gecko		NT		14
animals	reptiles	Diplodactylidae	*Nebulifera robusta*	robust velvet gecko		C		9
animals	reptiles	Diplodactylidae	*Amalosia rhombifer*	zig-zag gecko		C		3
animals	reptiles	Diplodactylidae	*Oedura monilis*	ocellated velvet gecko		C		42
animals	reptiles	Diplodactylidae	*Diplodactylus vittatus*	wood gecko		C		2
animals	reptiles	Elapidae	*Hoplocephalus bitorquatus*	pale-headed snake		C		6
animals	reptiles	Elapidae	*Brachyurophis australis*	coral snake		C		4
animals	reptiles	Elapidae	*Cryptophis nigrescens*	eastern small-eyed snake		C		6
animals	reptiles	Elapidae	*Pseudechis australis*	king brown snake		C		3
animals	reptiles	Elapidae	*Vermicella annulata*	bandy-bandy		C		1
animals	reptiles	Elapidae	*Pseudonaja textilis*	eastern brown snake		C		15
animals	reptiles	Elapidae	*Cacophis harriettae*	white-crowned snake		C		1
animals	reptiles	Elapidae	*Cryptophis boschmai*	Carpentaria whip snake		C		2
animals	reptiles	Elapidae	*Demansia psammophis*	yellow-faced whipsnake		C		10
animals	reptiles	Elapidae	*Suta suta*	myall snake		C		25
animals	reptiles	Elapidae	*Furina diadema*	red-naped snake		C		3
animals	reptiles	Elapidae	*Parasuta dwyeri*	Dwyer's snake		C		6
animals	reptiles	Elapidae	*Denisonia devisi*	De Vis' banded snake		C		3
animals	reptiles	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko		C		90
animals	reptiles	Gekkonidae	*Gehyra dubia*	dubious dtella		C		171
animals	reptiles	Gekkonidae	*Gehyra versicolor*			C		9
animals	reptiles	Pygopodidae	*Lialis burtonis*	Burton's legless lizard		C		4
animals	reptiles	Pygopodidae	*Paradelma orientalis*	brigalow scaly-foot		C		29
animals	reptiles	Pygopodidae	*Delma plebeia*	common delma		C		3
animals	reptiles	Pygopodidae	*Pygopus schraderi*	eastern hooded scaly-foot		C		1
animals	reptiles	Pygopodidae	*Delma sp.*					1
animals	reptiles	Pygopodidae	*Delma tincta*	excitable delma		C		1
animals	reptiles	Scincidae	*Carlia sp.*					2
animals	reptiles	Scincidae	*Lerista sp.*					1
animals	reptiles	Scincidae	*Carlia munda*	shaded-litter rainbow-skink		C		1
animals	reptiles	Scincidae	*Carlia vivax*	tussock rainbow-skink		C		1
animals	reptiles	Scincidae	*Anomalopus sp.*					1
animals	reptiles	Scincidae	*Lerista timida*	timid slider		C		14
animals	reptiles	Scincidae	*Menetia greyii*	common dwarf skink		C		2
animals	reptiles	Scincidae	*Tiliqua rugosa*	shingle-back		C		2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Scincidae	*Ctenotus ingrami*	unspotted yellow-sided ctenotus		C		5
animals	reptiles	Scincidae	*Lerista fragilis*	eastern mulch slider		C		17
animals	reptiles	Scincidae	*Carlia pectoralis*	open-litter rainbow skink		C		5
animals	reptiles	Scincidae	*Carlia schmeltzii*	robust rainbow-skink		C		1
animals	reptiles	Scincidae	*Egernia striolata*	tree skink		C		7
animals	reptiles	Scincidae	*Liopholis modesta*	eastern ranges rock-skink		C		1
animals	reptiles	Scincidae	*Ctenotus spaldingi*	straight-browed ctenotus		C		18
animals	reptiles	Scincidae	*Tiliqua scincoides*	eastern blue-tongued lizard		C		6
animals	reptiles	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink		C		14
animals	reptiles	Scincidae	*Morethia boulengeri*	south-eastern morethia skink		C		14
animals	reptiles	Scincidae	*Ctenotus taeniolatus*	copper-tailed skink		C		3
animals	reptiles	Scincidae	*Anomalopus leuckartii*	two-clawed worm-skink		C		6
animals	reptiles	Scincidae	*Pygmaeascincus timlowi*	dwarf litter-skink		C		2
animals	reptiles	Scincidae	*Lerista punctatovittata*	eastern robust slider		C		23
animals	reptiles	Scincidae	*Cryptoblepharus pannosus*	ragged snake-eyed skink		C		1
animals	reptiles	Scincidae	*Eremiascincus fasciolatus*	narrow-banded sand swimmer		C		3
animals	reptiles	Scincidae	*Eremiascincus richardsonii*	broad-banded sand swimmer		C		1
animals	reptiles	Scincidae	*Carlia pectoralis sensu lato*			C		1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		13
animals	reptiles	Typhlopidae	*Anilios ligatus*	robust blind snake		C		2
animals	reptiles	Typhlopidae	*Anilios affinis*	small-headed blind snake		C		2
animals	reptiles	Typhlopidae	*Anilios wiedii*	brown-snouted blind snake		C		1
animals	reptiles	Typhlopidae	*Anilios sp.*					1
animals	reptiles	Typhlopidae	*Anilios proximus*	proximus blind snake		C		1
animals	reptiles	Varanidae	*Varanus tristis*	black-tailed monitor		C		24
animals	reptiles	Varanidae	*Varanus gouldii*	sand monitor		C		1
animals	reptiles	Varanidae	*Varanus varius*	lace monitor		C		8
animals	reptiles	Varanidae	*Varanus sp.*	goanna				1
animals	reptiles	Varanidae	*Varanus panoptes*	yellow-spotted monitor		C		4
plants	Equisetopsida	Acanthaceae	*Dipteracanthus australasicus subsp. corynothecus*			C		1/1
plants	Equisetopsida	Apocynaceae	*Parsonsia eucalyptophylla*	gargaloo		C		2/2
plants	Equisetopsida	Apocynaceae	*Parsonsia lanceolata*	northern silkpod		C		2/2
plants	Equisetopsida	Apocynaceae	*Marsdenia viridiflora subsp. viridiflora*			C		1/1
plants	Equisetopsida	Asteraceae	*Pycnosorus chrysanthus*	golden billy buttons		C		2/2
plants	Equisetopsida	Asteraceae	*Ozothamnus cassinioides*			C		1/1
plants	Equisetopsida	Asteraceae	*Chrysocephalum apiculatum*	yellow buttons		C		2/1
plants	Equisetopsida	Asteraceae	*Pseudognaphalium luteoalbum*	Jersey cudweed		C		1/1
plants	Equisetopsida	Asteraceae	*Vittadinia dissecta var. hirta*			C		1/1
plants	Equisetopsida	Asteraceae	*Vittadinia dissecta var. dissecta*			C		1/1
plants	Equisetopsida	Asteraceae	*Coronidium oxylepis subsp. lanatum*			C		1/1
plants	Equisetopsida	Asteraceae	*Olearia canescens subsp. canescens*			C		1/1
plants	Equisetopsida	Asteraceae	*Peripleura hispidula var. hispidula*			C		1/1
plants	Equisetopsida	Asteraceae	*Brachyscome whitei subsp. lophoptera*			C		1/1
plants	Equisetopsida	Asteraceae	*Senecio pinnatifolius var. pinnatifolius*			C		1
plants	Equisetopsida	Asteraceae	*Senecio brigalowensis*			C		1/1
plants	Equisetopsida	Asteraceae	*Vittadinia pustulata*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Equisetopsida	Asteraceae	*Senecio tenuiflorus*			C		1/1
plants	Equisetopsida	Asteraceae	*Calotis dentex*	white burr daisy		C		1/1
plants	Equisetopsida	Asteraceae	*Calotis cuneifolia*	burr daisy		C		1/1
plants	Equisetopsida	Brassicaceae	*Stenopetalum nutans*			C		2/2
plants	Equisetopsida	Brassicaceae	*Stenopetalum lineare*			C		1/1
plants	Equisetopsida	Brassicaceae	*Arabidella eremigena*			C		2/2
plants	Equisetopsida	Caesalpiniaceae	*Chamaecrista nomame*			C		1/1
plants	Equisetopsida	Campanulaceae	*Lobelia browniana*			C		1/1
plants	Equisetopsida	Campanulaceae	*Wahlenbergia tumidifructa*			C		1/1
plants	Equisetopsida	Capparaceae	*Capparis loranthifolia*			C		1
plants	Equisetopsida	Caryophyllaceae	*Gypsophila australis*			C		1/1
plants	Equisetopsida	Chenopodiaceae	*Sclerolaena tetracuspis*	brigalow burr		C		1/1
plants	Equisetopsida	Chenopodiaceae	*Maireana enchylaenoides*			C		2/2
plants	Equisetopsida	Chenopodiaceae	*Sclerolaena bicornis var. horrida*			C		2/2
plants	Equisetopsida	Chenopodiaceae	*Sclerolaena muricata var. semiglabra*			C		2/2
plants	Equisetopsida	Chenopodiaceae	*Maireana microphylla*			C		1
plants	Equisetopsida	Chenopodiaceae	*Sclerolaena birchii*	galvanised burr		C		1
plants	Equisetopsida	Commelinaceae	*Aneilema sclerocarpum*			C		1/1
plants	Equisetopsida	Commelinaceae	*Aneilema acuminatum*			C		1/1
plants	Equisetopsida	Commelinaceae	*Commelina diffusa*	wandering jew		C		2/2
plants	Equisetopsida	Convolvulaceae	*Evolvulus alsinoides*			C		1/1
plants	Equisetopsida	Cupressaceae	*Callitris glaucophylla*	white cypress pine		C		1
plants	Equisetopsida	Cyperaceae	*Cyperus sanguinolentus*			C		1/1
plants	Equisetopsida	Cyperaceae	*Bulbostylis pyriformis*			C		1/1
plants	Equisetopsida	Cyperaceae	*Cyperus alterniflorus*			C		1/1
plants	Equisetopsida	Cyperaceae	*Schoenus yarrabensis*			C		1/1
plants	Equisetopsida	Cyperaceae	*Isolepis hookeriana*			C		1/1
plants	Equisetopsida	Cyperaceae	*Cyperus perangustus*			C		1/1
plants	Equisetopsida	Cyperaceae	*Scleria sphacelata*			C		2/2
plants	Equisetopsida	Cyperaceae	*Schoenus centralis*			C		1/1
plants	Equisetopsida	Cyperaceae	*Abildgaardia ovata*			C		1
plants	Equisetopsida	Cyperaceae	*Cyperus flaccidus*			C		1/1
plants	Equisetopsida	Cyperaceae	*Cyperus gracilis*			C		1/1
plants	Equisetopsida	Cyperaceae	*Fuirena arenosa*			C		1/1
plants	Equisetopsida	Droseraceae	*Drosera lunata*			C		1/1
plants	Equisetopsida	Droseraceae	*Drosera finlaysoniana*			C		1/1
plants	Equisetopsida	Droseraceae	*Drosera burmanni*			C		1/1
plants	Equisetopsida	Ericaceae	*Leucopogon mitchellii*			C		1/1
plants	Equisetopsida	Euphorbiaceae	*Croton phebalioides*	narrow-leaved croton		C		2/2
plants	Equisetopsida	Fabaceae	*Glycine*			C		2/2
plants	Equisetopsida	Fabaceae	*Mirbelia pungens*			C		1/1
plants	Equisetopsida	Fabaceae	*Desmodium varians*	slender tick trefoil		C		1/1
plants	Equisetopsida	Fabaceae	*Zornia muriculata*			C		1/1
plants	Equisetopsida	Fabaceae	*Glycine microphylla*			C		1/1
plants	Equisetopsida	Fabaceae	*Crotalaria medicaginea var. medicaginea*			C		1/1
plants	Equisetopsida	Fabaceae	*Desmodium brachypodum*	large ticktrefoil		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Equisetopsida	Fabaceae	*Zornia dyctiocarpa var. filifolia*			C		1/1
plants	Equisetopsida	Fabaceae	*Glycine clandestina var. clandestina*			C		1/1
plants	Equisetopsida	Fabaceae	*Zornia muelleriana subsp. muelleriana*			C		6/6
plants	Equisetopsida	Fabaceae	*Chorizema parviflorum*	eastern flame pea		C		1/1
plants	Equisetopsida	Goodeniaceae	*Goodenia delicata*			C		2/2
plants	Equisetopsida	Goodeniaceae	*Goodenia rosulata*			C		1/1
plants	Equisetopsida	Goodeniaceae	*Goodenia rotundifolia*			C		1/1
plants	Equisetopsida	Gyrostemonaceae	*Codonocarpus attenuatus*			C		1/1
plants	Equisetopsida	Haloragaceae	*Gonocarpus urceolatus*			C		1/1
plants	Equisetopsida	Haloragaceae	*Myriophyllum gracile var. lineare*			C		1/1
plants	Equisetopsida	Haloragaceae	*Myriophyllum implicatum*			C		1/1
plants	Equisetopsida	Haloragaceae	*Haloragis heterophylla*	rough raspweed		C		1/1
plants	Equisetopsida	Juncaceae	*Juncus*			C		1
plants	Equisetopsida	Juncaceae	*Juncus usitatus*			C		1/1
plants	Equisetopsida	Juncaceae	*Juncus subsecundus*			C		1/1
plants	Equisetopsida	Juncaceae	*Juncus continuus*			C		1/1
plants	Equisetopsida	Juncaceae	*Juncus aridicola*	tussock rush		C		1/1
plants	Equisetopsida	Lamiaceae	*Teucrium daucoides*			C		1/1
plants	Equisetopsida	Lamiaceae	*Teucrium puberulum*			C		1/1
plants	Equisetopsida	Lamiaceae	*Mentha satureioides*	native pennyroyal		C		1/1
plants	Equisetopsida	Lamiaceae	*Prostanthera sp. (Baking Board V.Hando 135)*			C		1/1
plants	Equisetopsida	Laxmanniaceae	*Thysanotus tuberosus*			C		1/1
plants	Equisetopsida	Laxmanniaceae	*Lomandra confertifolia subsp. pallida*			C		1/1
plants	Equisetopsida	Laxmanniaceae	*Lomandra multiflora subsp. multiflora*			C		2/1
plants	Equisetopsida	Laxmanniaceae	*Lomandra leucocephala subsp. leucocephala*			C		2/1
plants	Equisetopsida	Laxmanniaceae	*Lomandra longifolia*			C		1
plants	Equisetopsida	Laxmanniaceae	*Lomandra filiformis*			C		1/1
plants	Equisetopsida	Laxmanniaceae	*Laxmannia gracilis*	slender wire lily		C		1/1
plants	Equisetopsida	Laxmanniaceae	*Laxmannia compacta*			C		1/1
plants	Equisetopsida	Laxmanniaceae	*Lomandra filiformis subsp. filiformis*			C		1/1
plants	Equisetopsida	Linderniaceae	*Lindernia*			C		1/1
plants	Equisetopsida	Loganiaceae	*Mitrasacme alsinoides*			C		1/1
plants	Equisetopsida	Loganiaceae	*Mitrasacme paludosa*			C		1/1
plants	Equisetopsida	Loranthaceae	*Lysiana exocarpi subsp. tenuis*			C		1/1
plants	Equisetopsida	Loranthaceae	*Lysiana subfalcata*			C		1/1
plants	Equisetopsida	Malvaceae	*Abutilon tubulosum var. tubulosum*			C		1/1
plants	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. oxycarpum*			C		2/2
plants	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. incanum*			C		2/2
plants	Equisetopsida	Malvaceae	*Abutilon tubulosum*			C		1/1
plants	Equisetopsida	Malvaceae	*Sida atherophora*			C		1/1
plants	Equisetopsida	Malvaceae	*Hibiscus sturtii*			C		1
plants	Equisetopsida	Malvaceae	*Sida corrugata*			C		2/2
plants	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. subsagittatum*			C		2/2
plants	Equisetopsida	Mimosaceae	*Acacia leiocalyx subsp. leiocalyx*			C		2/2
plants	Equisetopsida	Mimosaceae	*Acacia bancroftiorum*			C		1/1
plants	Equisetopsida	Mimosaceae	*Acacia spectabilis*	pilliga wattle		C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Equisetopsida	Mimosaceae	*Acacia harpophylla*	brigalow		C		1/1
plants	Equisetopsida	Mimosaceae	*Acacia amblygona*	fan-leaf wattle		C		1/1
plants	Equisetopsida	Mimosaceae	*Acacia shirleyi*	lancewood		C		1/1
plants	Equisetopsida	Mimosaceae	*Acacia conferta*			C		2/2
plants	Equisetopsida	Mimosaceae	*Acacia decora*	pretty wattle		C		1/1
plants	Equisetopsida	Mimosaceae	*Acacia excelsa*			C		1
plants	Equisetopsida	Myrtaceae	*Melaleuca uncinata*			C		1/1
plants	Equisetopsida	Myrtaceae	*Angophora floribunda*	rough-barked apple		C		1
plants	Equisetopsida	Myrtaceae	*Eucalyptus chloroclada*	Baradine red gum		C		1/1
plants	Equisetopsida	Myrtaceae	*Eucalyptus camaldulensis subsp. acuta*			C		1
plants	Equisetopsida	Myrtaceae	*Eucalyptus tereticornis subsp. tereticornis*			C		1/1
plants	Equisetopsida	Orchidaceae	*Cymbidium canaliculatum*			C		46
plants	Equisetopsida	Orobanchaceae	*Buchnera*			C		1/1
plants	Equisetopsida	Oxalidaceae	*Oxalis radicosa*			C		1/1
plants	Equisetopsida	Oxalidaceae	*Oxalis*			C		1
plants	Equisetopsida	Philydraceae	*Philydrum lanuginosum*	frogsmouth		C		2
plants	Equisetopsida	Phrymaceae	*Mimulus*			C		1/1
plants	Equisetopsida	Phyllanthaceae	*Phyllanthus virgatus*			C		1/1
plants	Equisetopsida	Pittosporaceae	*Auranticarpa rhombifolia*			C		1/1
plants	Equisetopsida	Plantaginaceae	*Veronica plebeia*	trailing speedwell		C		2/2
plants	Equisetopsida	Plantaginaceae	*Plantago debilis*	shade plantain		C		1/1
plants	Equisetopsida	Poaceae	*Eriachne rara*			C		2/2
plants	Equisetopsida	Poaceae	*Aristida ramosa*	purple wiregrass		C		3/3
plants	Equisetopsida	Poaceae	*Panicum effusum*			C		1/1
plants	Equisetopsida	Poaceae	*Aristida lignosa*			C		1
plants	Equisetopsida	Poaceae	*Eriochloa crebra*	spring grass		C		1/1
plants	Equisetopsida	Poaceae	*Sarga leiocladum*			C		1/1
plants	Equisetopsida	Poaceae	*Triraphis mollis*	purple plumegrass		C		2/2
plants	Equisetopsida	Poaceae	*Digitaria diffusa*			C		1/1
plants	Equisetopsida	Poaceae	*Aristida personata*			C		2
plants	Equisetopsida	Poaceae	*Eragrostis brownii*	Brown's lovegrass		C		2/2
plants	Equisetopsida	Poaceae	*Eragrostis sororia*			C		1/1
plants	Equisetopsida	Poaceae	*Eriachne mucronata*			C		1/1
plants	Equisetopsida	Poaceae	*Aristida platychaeta*			C		2/2
plants	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass		C		2/2
plants	Equisetopsida	Poaceae	*Eremochloa bimaculata*	poverty grass		C		1/1
plants	Equisetopsida	Poaceae	*Sporobolus mitchellii*	rat's tail couch		C		1
plants	Equisetopsida	Poaceae	*Aristida caput-medusae*			C		2/1
plants	Equisetopsida	Poaceae	*Arundinella nepalensis*	reedgrass		C		1/1
plants	Equisetopsida	Poaceae	*Bothriochloa decipiens*			C		1
plants	Equisetopsida	Poaceae	*Cleistochloa subjuncea*			C		2/2
plants	Equisetopsida	Poaceae	*Setaria paspalidioides*			C		1/1
plants	Equisetopsida	Poaceae	*Ancistrachne uncinulata*	hooky grass		C		1
plants	Equisetopsida	Poaceae	*Rytidosperma bipartitum*			C		2/2
plants	Equisetopsida	Poaceae	*Paspalidium albovillosum*			C		2/2
plants	Equisetopsida	Poaceae	*Dinebra decipiens var. decipiens*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	Equisetopsida	Poaceae	*Dinebra decipiens var. peacockii*			C		1/1
plants	Equisetopsida	Poaceae	*Poa labillardierei var. labillardierei*	tussock grass		C		2/2
plants	Equisetopsida	Poaceae	*Aristida jerichoensis var. jerichoensis*			C		1/1
plants	Equisetopsida	Poaceae	*Digitaria divaricatissima var. divaricatissima*			C		2/2
plants	Equisetopsida	Polygalaceae	*Polygala triflora*			C		1/1
plants	Equisetopsida	Polygonaceae	*Persicaria decipiens*	slender knotweed		C		1/1
plants	Equisetopsida	Portulacaceae	*Portulaca bicolor*			C		1/1
plants	Equisetopsida	Pottiaceae	*Trichostomum brachydontium*			C		1/1
plants	Equisetopsida	Pottiaceae	*Syntrichia laevipila*			C		1/1
plants	Equisetopsida	Pteridaceae	*Cheilanthes sieberi subsp. sieberi*			C		1
plants	Equisetopsida	Ranunculaceae	*Clematis microphylla*			C		2/2
plants	Equisetopsida	Rubiaceae	*Psydrax johnsonii*			C		1/1
plants	Equisetopsida	Rubiaceae	*Oldenlandia mitrasacmoides subsp. trachymenoides*			C		1/1
plants	Equisetopsida	Rubiaceae	*Cyclophyllum coprosmoides var. coprosmoides*			C		1/1
plants	Equisetopsida	Rubiaceae	*Psydrax odorata subsp. australiana*			C		1/1
plants	Equisetopsida	Rubiaceae	*Spermacoce brachystema*			C		1/1
plants	Equisetopsida	Sapindaceae	*Dodonaea lanceolata var. subsessilifolia*			C		1/1
plants	Equisetopsida	Sapindaceae	*Dodonaea heteromorpha*			C		1/1
plants	Equisetopsida	Sapindaceae	*Alectryon pubescens*			C		1/1
plants	Equisetopsida	Sapindaceae	*Dodonaea filifolia*			C		2/2
plants	Equisetopsida	Sapindaceae	*Dodonaea biloba*			C		2/2
plants	Equisetopsida	Scrophulariaceae	*Myoporum acuminatum*	coastal boobialla		C		1/1
plants	Equisetopsida	Scrophulariaceae	*Eremophila deserti*			C		1/1
plants	Equisetopsida	Solanaceae	*Nicotiana megalosiphon subsp. megalosiphon*			C		1/1
plants	Equisetopsida	Solanaceae	*Solanum parvifolium subsp. parvifolium*			C		1/1
plants	Equisetopsida	Solanaceae	*Solanum ferocissimum*			C		2/2
plants	Equisetopsida	Solanaceae	*Solanum coracinum*			C		1/1
plants	Equisetopsida	Solanaceae	*Solanum jucundum*			C		1/1
plants	Equisetopsida	Stackhousiaceae	*Stackhousia viminea*	slender stackhousia		C		1/1
plants	Equisetopsida	Sterculiaceae	*Brachychiton populneus*			C		5
plants	Equisetopsida	Sterculiaceae	*Brachychiton rupestris*			C		1
plants	Equisetopsida	Stylidiaceae	*Stylidium debile*	frail trigger plant		C		1/1
plants	Equisetopsida	Surianaceae	*Cadellia pentastylis*	ooline		V	V	1/1
plants	Equisetopsida	Thymelaeaceae	*Pimelea microcephala subsp. microcephala*			C		1/1
plants	Equisetopsida	Violaceae	*Afrohybanthus stellarioides*			C		2/2
plants	Equisetopsida	Viscaceae	*Korthalsella rubra subsp. geijericola*			C		3/3

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.* The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).
This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

Appendix E State Regional Ecosystem Mapping

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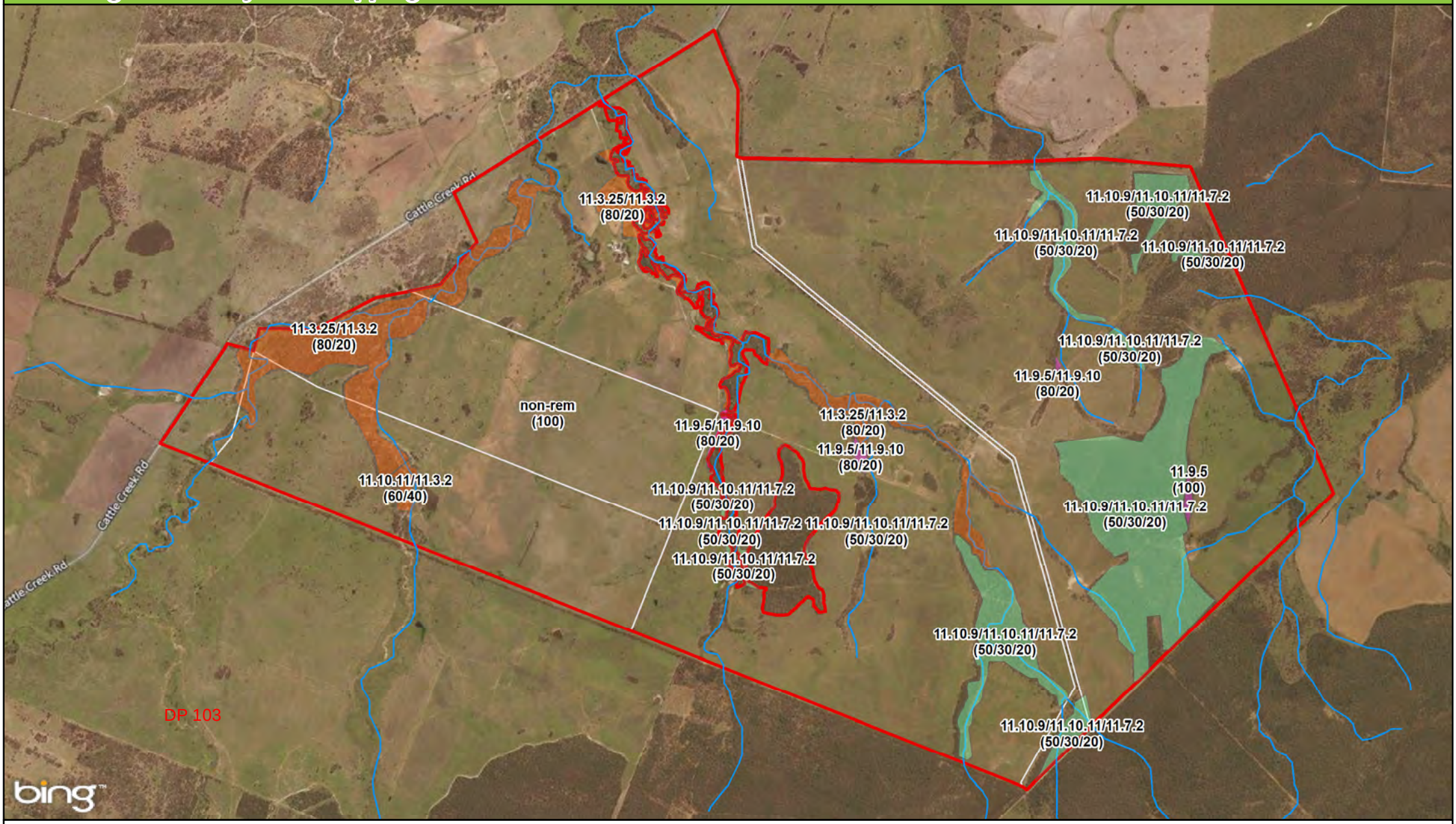
State Regional Ecosystem Mapping



Legend

- Water Feature
- Study Area
- Cadastre

State Regional Ecosystem Mapping (Biodiversity Status)

- Containing Endangered regional ecosystems
- Containing Of Concern regional ecosystems
- Is a No concern at present regional ecosystem

0 0.25 0.5 1
Kilometres
Datum/Projection:
GDA 1994 MGA Zone 56

N

Prepared by: JD Date: 30/05/2019

N:\19BRI\GIS\13297 Origin DP103 Ecology Survey\MXD\Report\AppendixE State RE Mapping.mxd

Appendix F EHP Environmental Values (ESAs, Referable Wetlands, Protected Plants)

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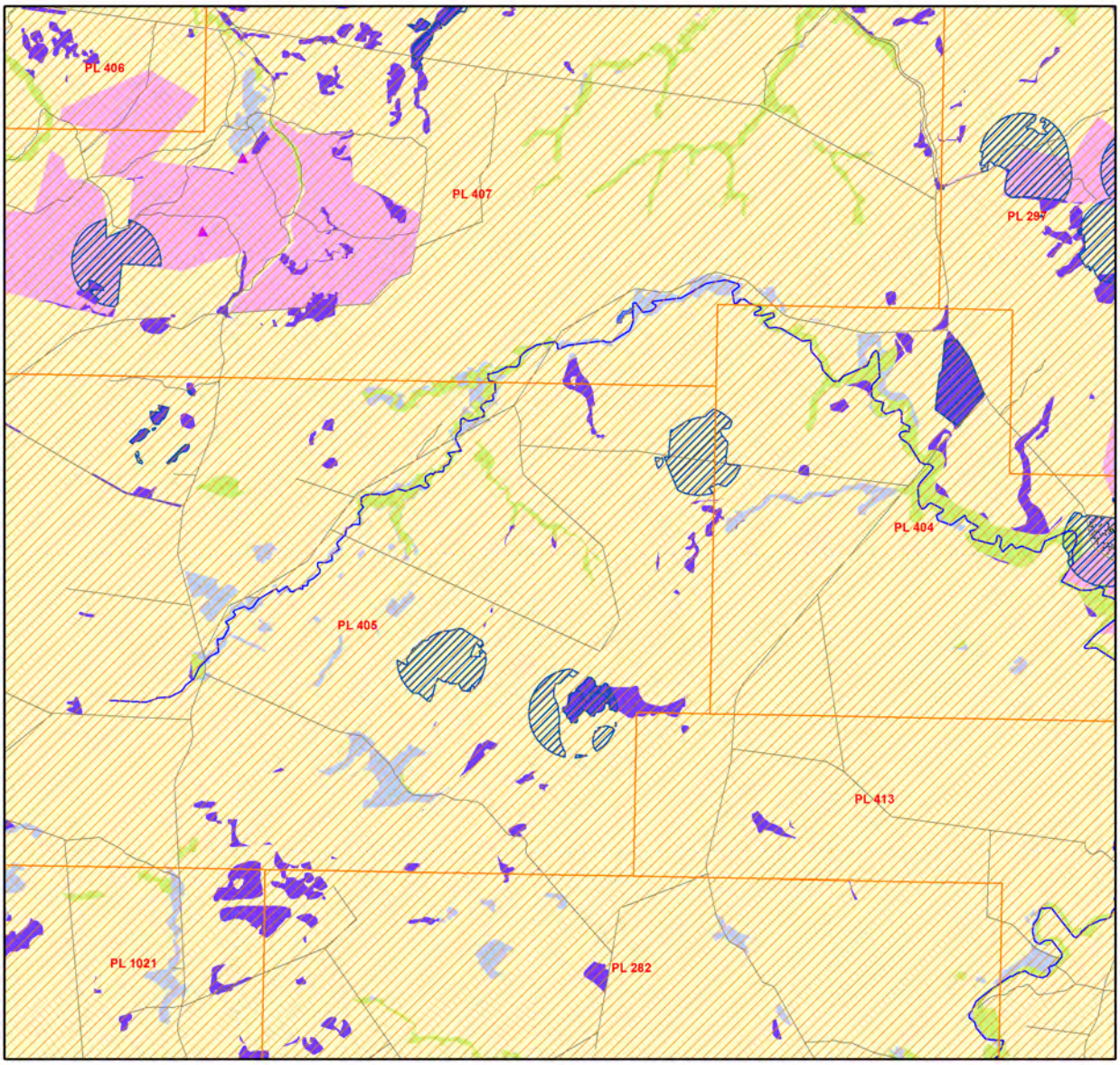
Tenure type: Petroleum Lease

Map requested: 17/05/2019 09:05:26

Centred on point position: Longitude: 149.3164 Latitude: -26.3454



ENVIRONMENTALLY SENSITIVE AREAS - non-mining resource activities (EP Act)

- Petroleum Lease

CATEGORY A

- National Parks
- Conservation Parks
- Forest Reserves
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Area
- Marine Parks other than General Use Zones

CATEGORY B

- World Heritage Areas
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Fish Habitat Areas
- Koala Plan
- Coordinated Conservation Areas
- Endangered Regional Ecosystems (Biodiversity Status)
- General Use Zones of Marine Parks
- Marine Plants

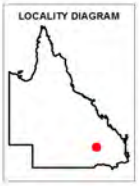
CATEGORY C

- Essential Habitat
- Nature Refuges
- Resources Reserve
- State Forests
- Timber Reserves
- Of Concern Regional Ecosystems (remnant biodiversity status)

OTHERS

- Towns
- Roads
- Rivers
- Springs
- Referable Wetlands
- Dominant Wetlands (51-100%)
- Subdominant Wetlands (0-50%)
- Queensland

LOCALITY DIAGRAM



N

0 1300 2600 3900 5200 6500 m

This product is projected into GDA 1994 MGA Zone 55

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External contributors (non-government parties) of the data for this product are: Great Barrier Reef Marine Park Authority

Regional ecosystem mapping (remnant biodiversity status) may incorporate amendments, resulting from property level assessments, to the release version of the mapping available on QSpatial.

NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

The user should note that some boundaries and indicated values are ambient or subject to change over time (e.g. regional ecosystem boundaries and conservation status, watercourse mapping etc).

The user should be aware that due to multiple overlapping themes present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes are displayed.

Mature Regrowth vegetation, depicting endangered regional ecosystems, was incorporated as of 24/07/2012.

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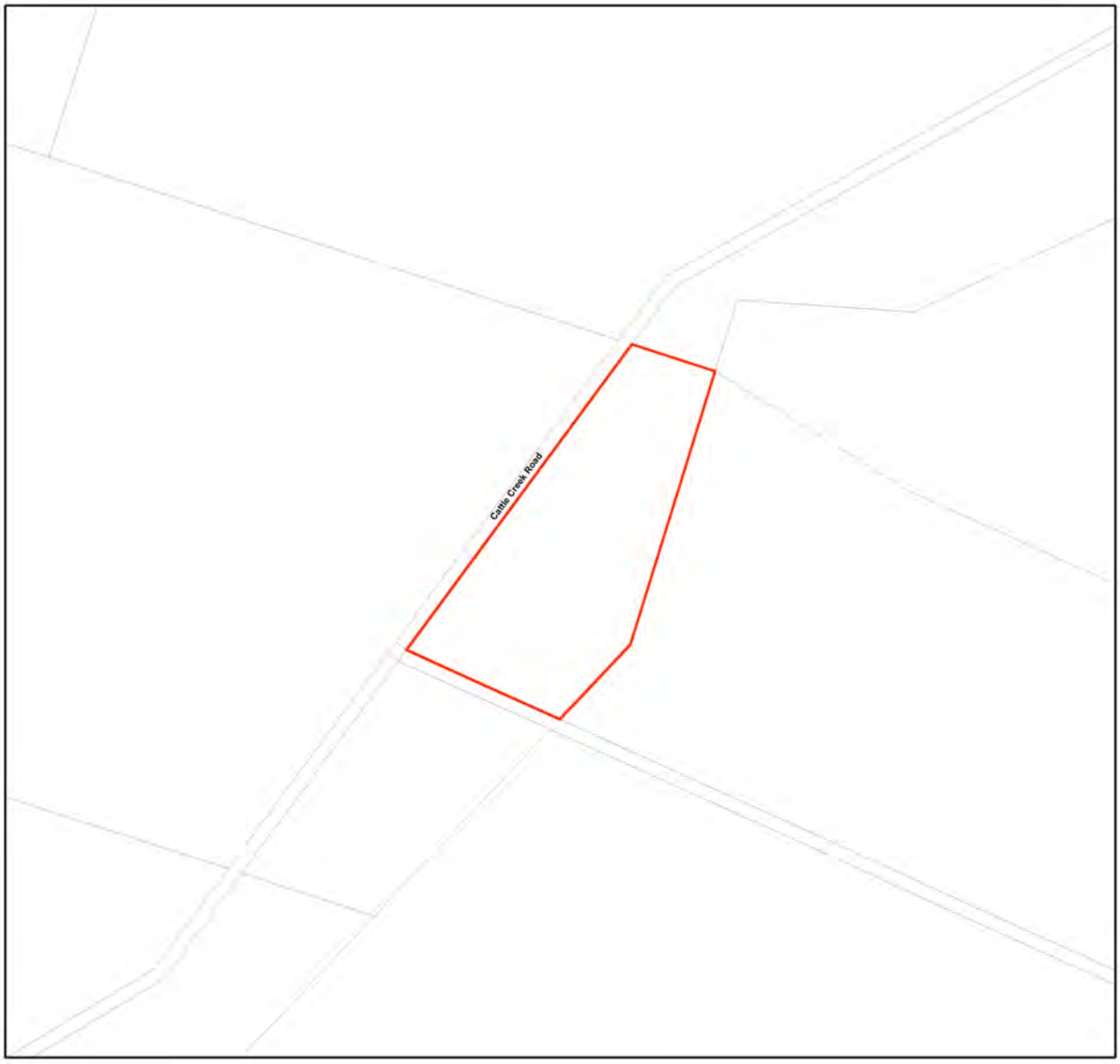

Map of Referable Wetlands
Wetland Protection Areas

Lot and Plan
Cadastral Boundary
Wetland Protection Areas
Wetland
Trigger Area

N

Note:
This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development, Manufacturing, Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Science is a technical agency.

The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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0 130 260 390 520 650 m

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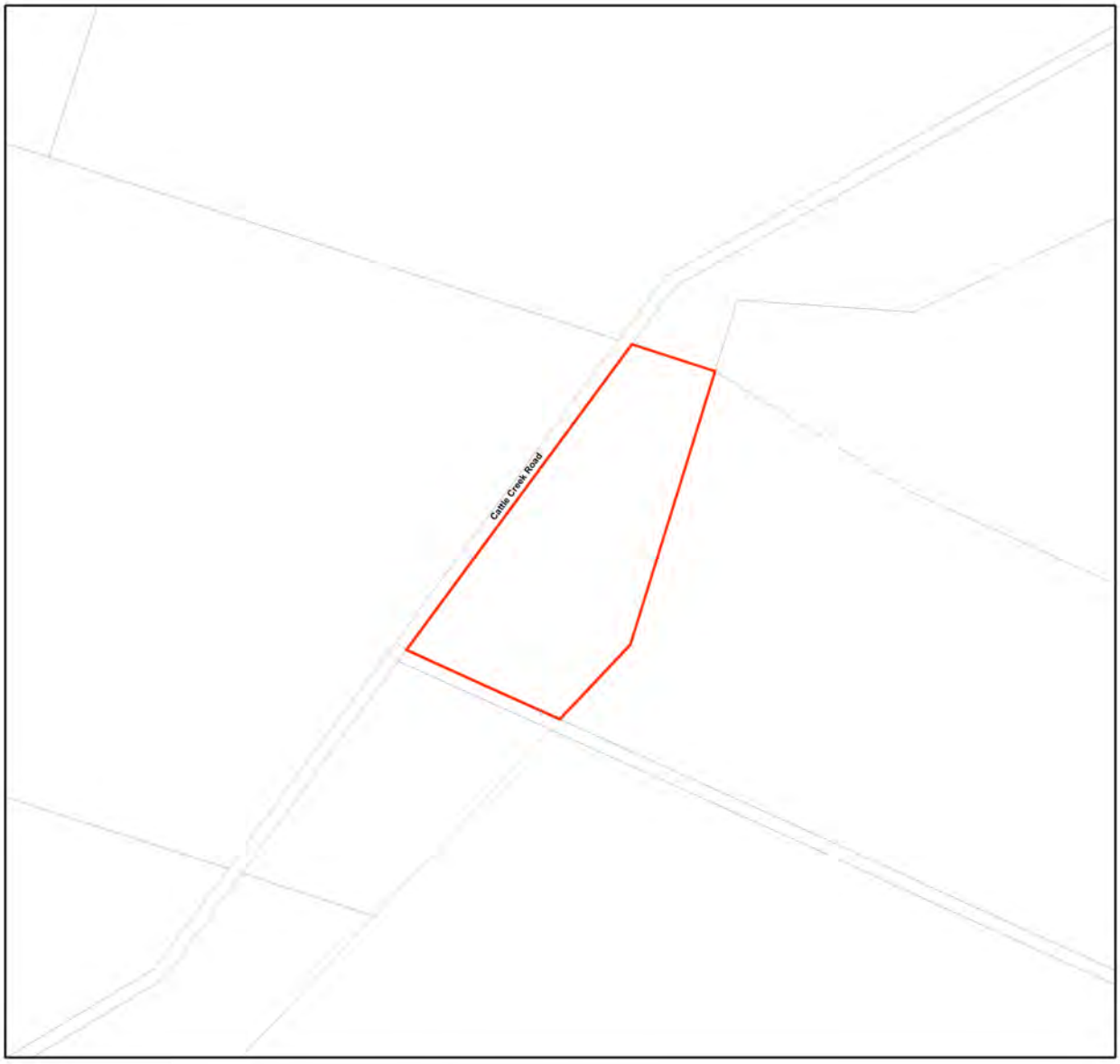

Map of Referable Wetlands for the Environmental Protection Act 1994

Lot and Plan
Cadastral Boundary
HES Wetland
GES Wetland

LOCALITY DIAGRAM

N

Note:
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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Queensland Government

Map of Referable Wetlands
Wetland Protection Areas

Lot and Plan
Cadastral Boundary
Wetland Protection Areas
Wetland
Trigger Area

LOCALITY DIAGRAM

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0 680 1360 2040 2720 3400 m

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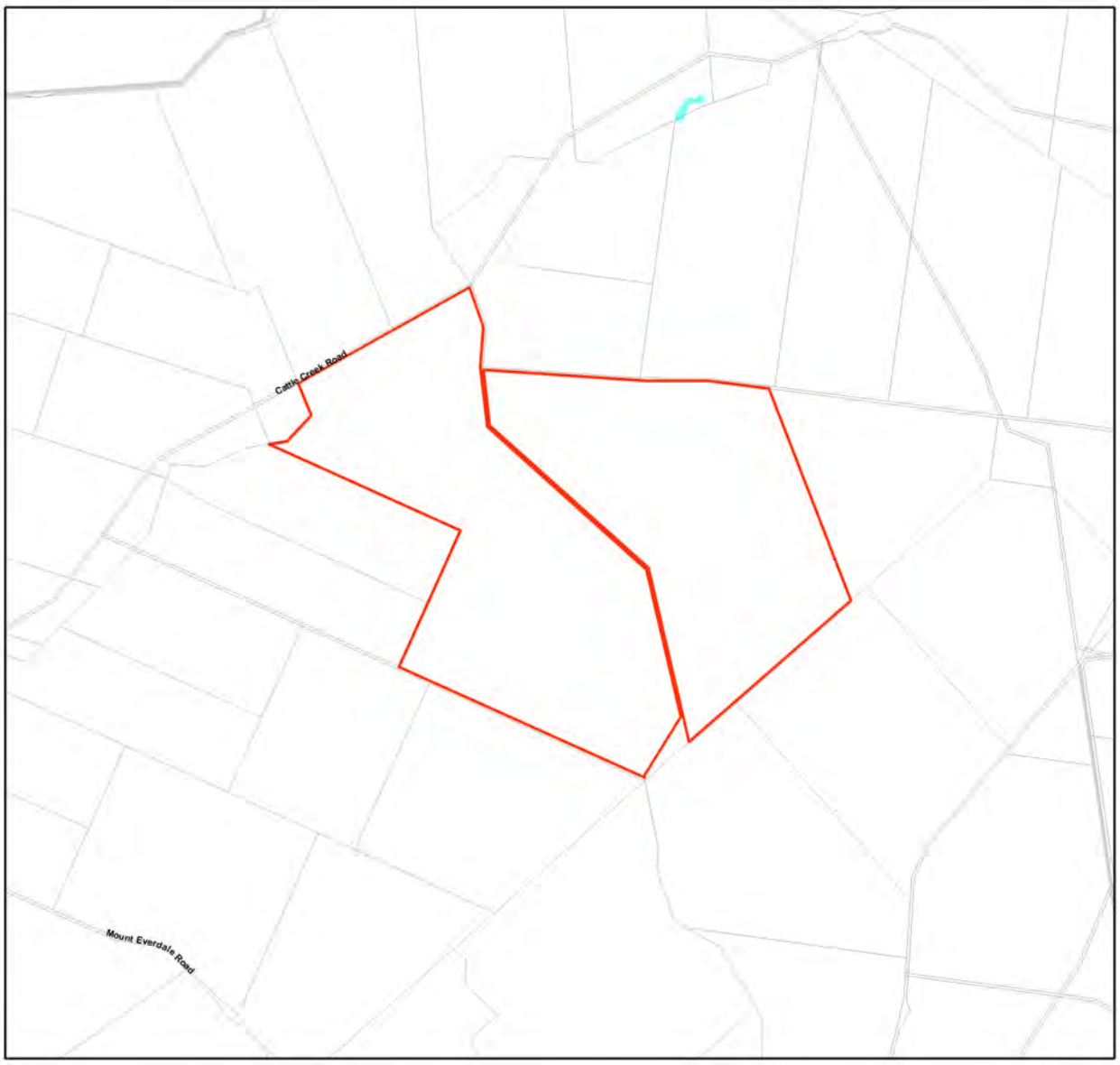

Map of Referable Wetlands for the Environmental Protection Act 1994

Lot and Plan
Cadastral Boundary
HES Wetland
GES Wetland

LOCALITY DIAGRAM

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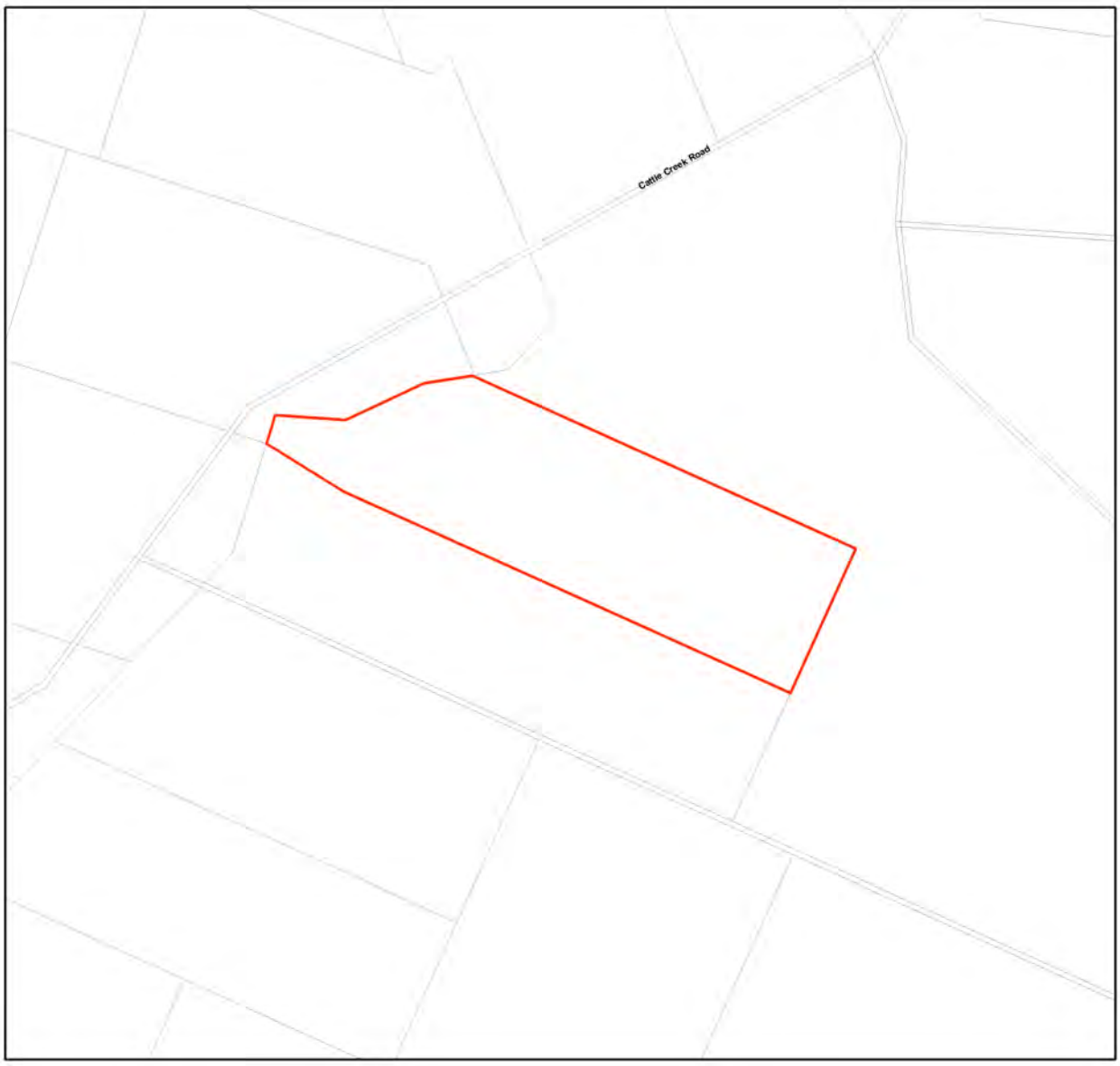

Map of Referable Wetlands
Wetland Protection Areas

Lot and Plan
Cadastral Boundary
Wetland Protection Areas
Wetland
Trigger Area

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0 340 680 1020 1360 1700 m

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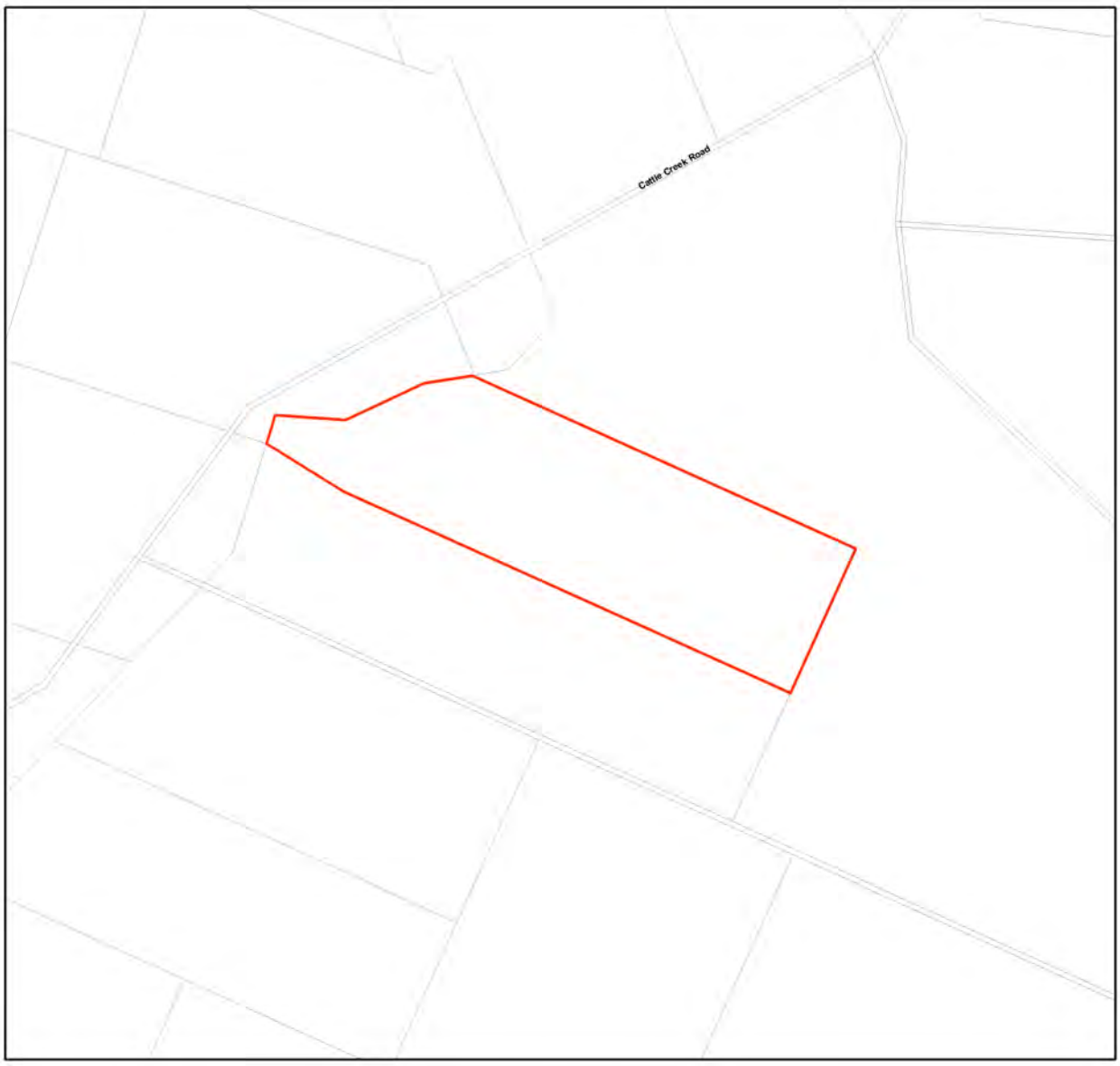

Map of Referable Wetlands for the Environmental Protection Act 1994

Lot and Plan
Cadastral Boundary
HES Wetland
GES Wetland

LOCALITY DIAGRAM

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0 340 680 1020 1360 1700 m

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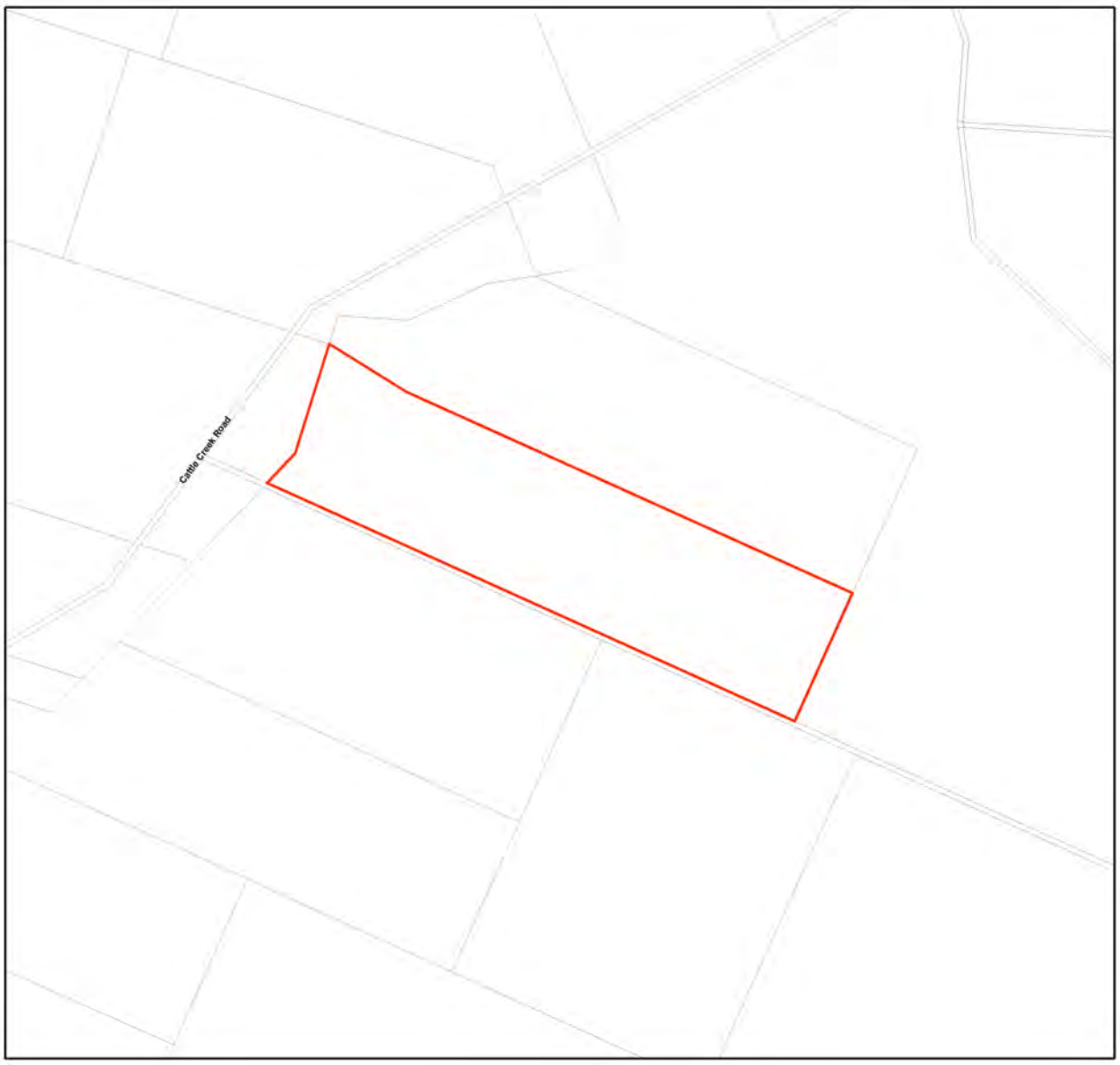

Map of Referable Wetlands
Wetland Protection Areas

Lot and Plan
Cadastral Boundary
Wetland Protection Areas
Wetland
Trigger Area

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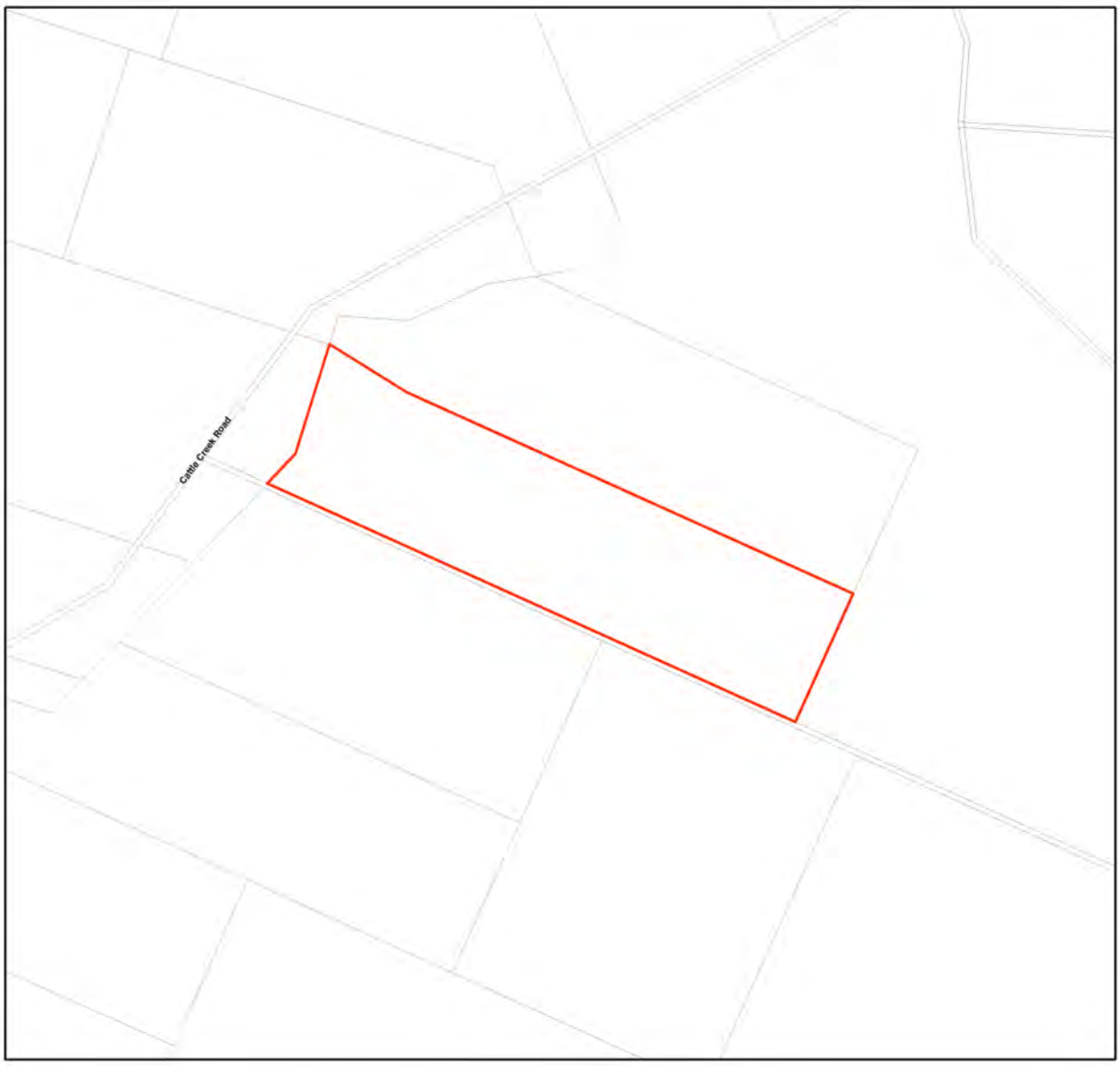

Map of Referable Wetlands for the Environmental Protection Act 1994

Lot and Plan
Cadastral Boundary
HES Wetland
GES Wetland

LOCALITY DIAGRAM

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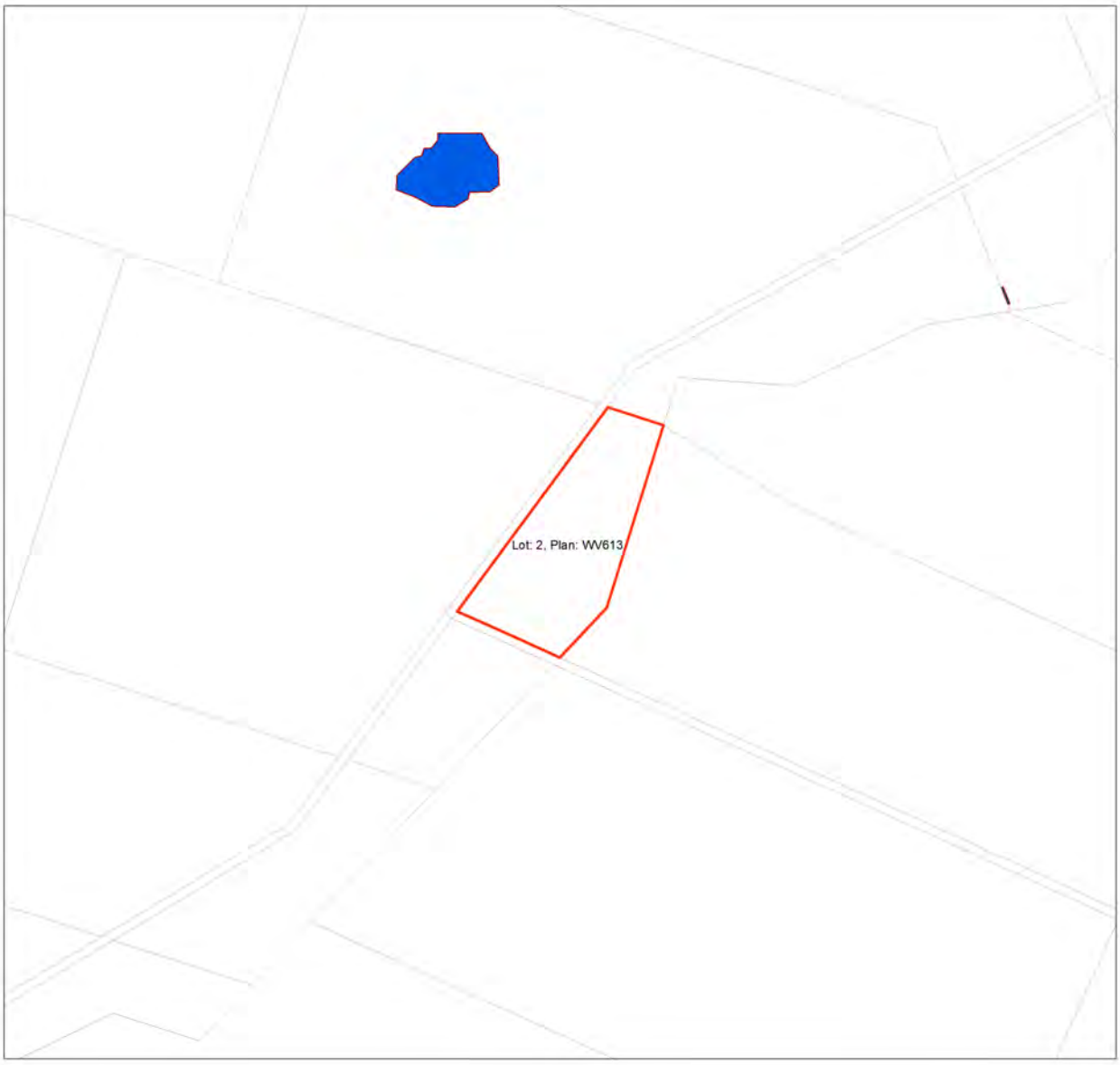

Regulated Vegetation Management Map

Legend

- Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Area not categorised
- Cadastral line
  Property boundaries shown are provided as a locational aid only

LOCALITY DIAGRAM

N

0 200 400 600 800 1,000 m

This product is projected into:
GDA 1994 MGA Zone 55

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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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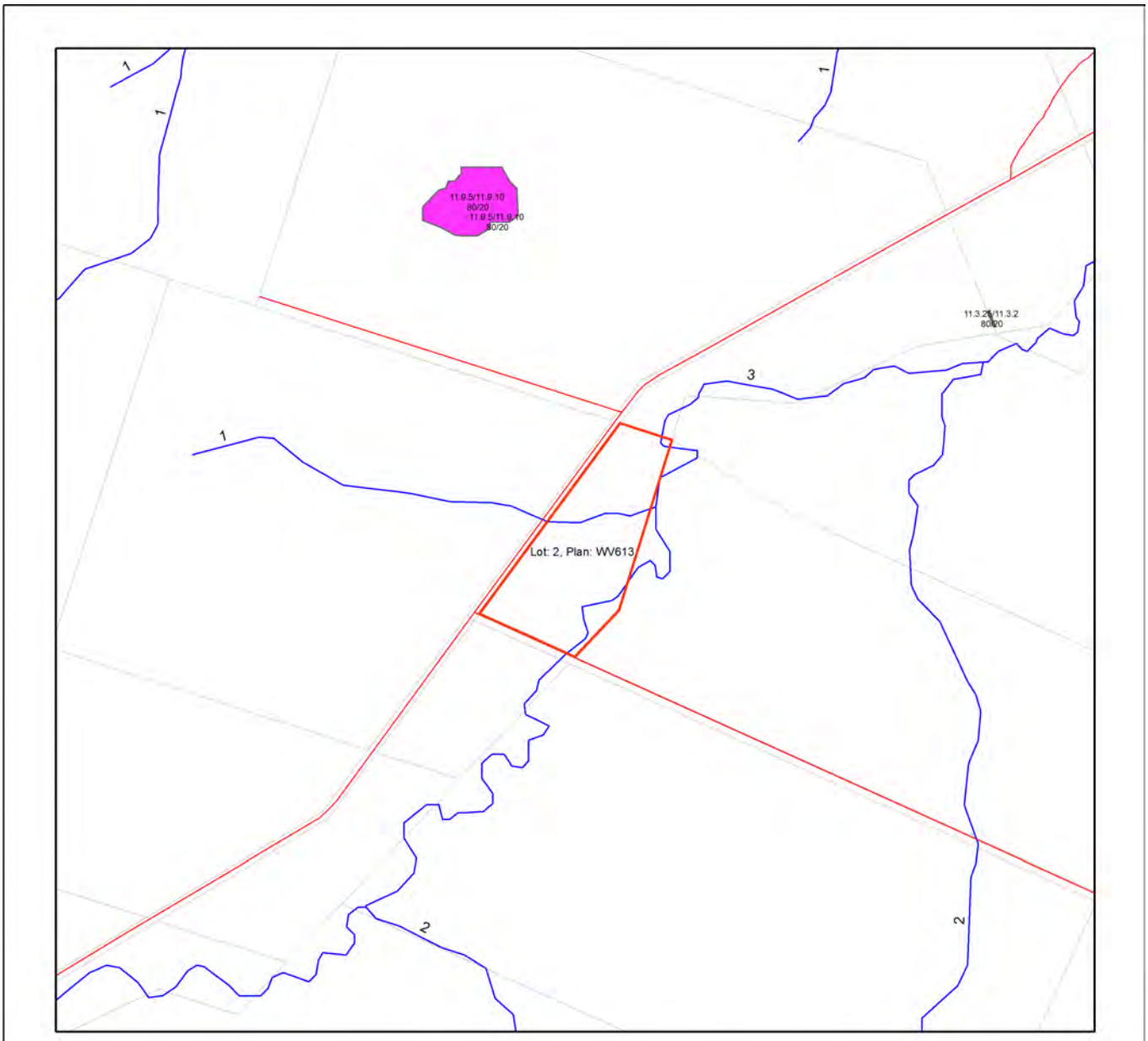

Vegetation Management Supporting Map

Legend

- Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area under Section 20AH
  These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map
  (Stream order shown as black number against stream where available)
- Roads
- National Parks, State Forest and other reserves
- Cadastral line
  Property boundaries shown are provided as a locational aid only

Queensland Government

LOCALITY DIAGRAM

N

0 140 280 420 560 700 m

This product is projected into:
GDA 1994 MGA Zone 55

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

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Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - State Code 16: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Planning Act 2016*; and
- Accepted development vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources, Mines and Energy website (http://www.dnrme.qld.gov.au) has more information on how the layer is applied under the State Development Assessment Provisions - State Code 16: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

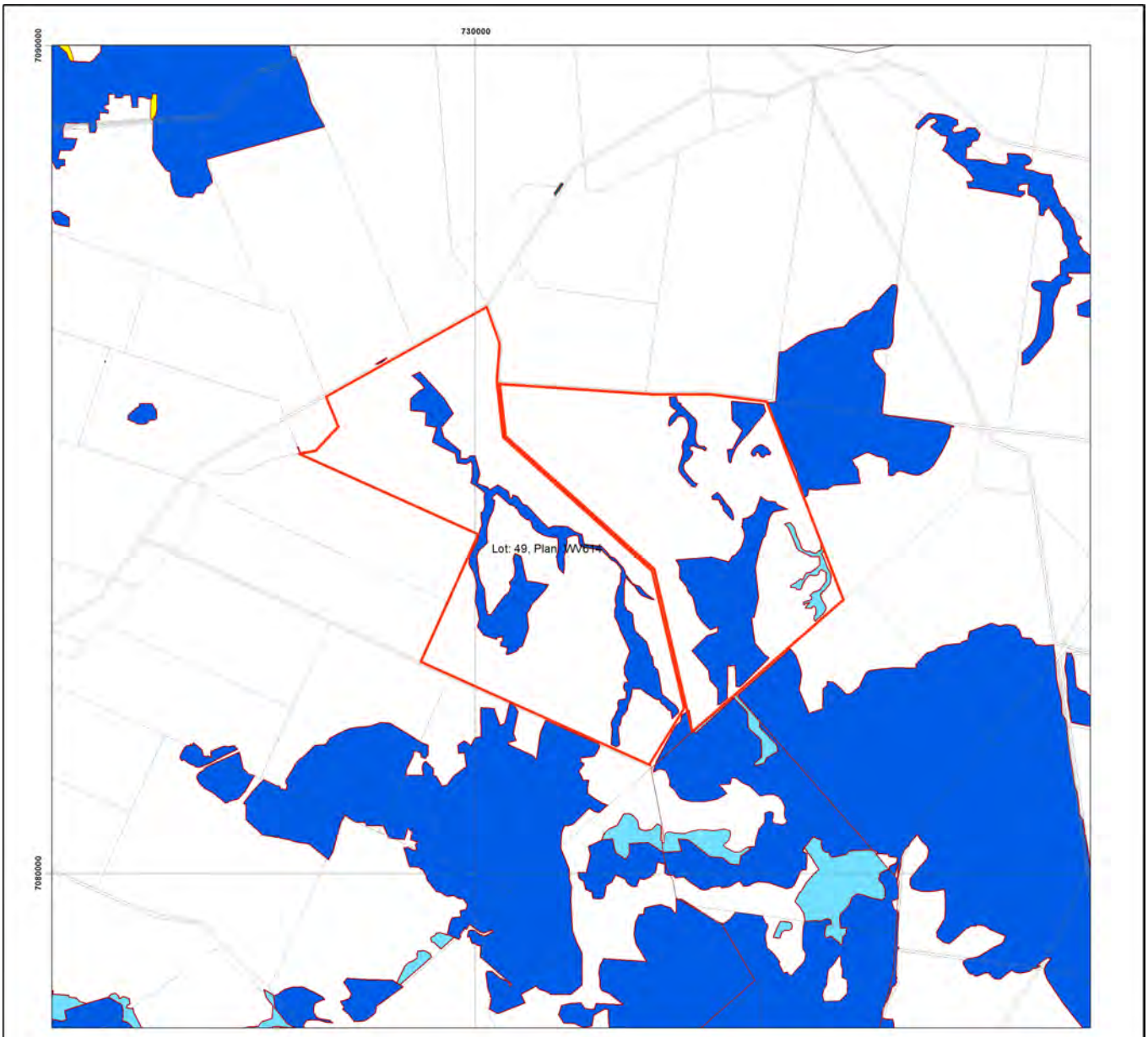
1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or

2) in which the protected wildlife, at any stage of its life cycle, is located.

Protected wildlife includes endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

No records



Regulated Vegetation Management Map

Legend

- Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
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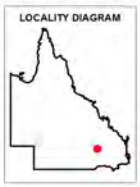
- Category X area (Exempt clearing work on Freehold. Indigenous and Leasehold land)
- Water
- Area not categorised
- Cadastral line
  Property boundaries shown are provided as a locational aid only



N

0 675 1,350 2,025 2,700 3,375 m

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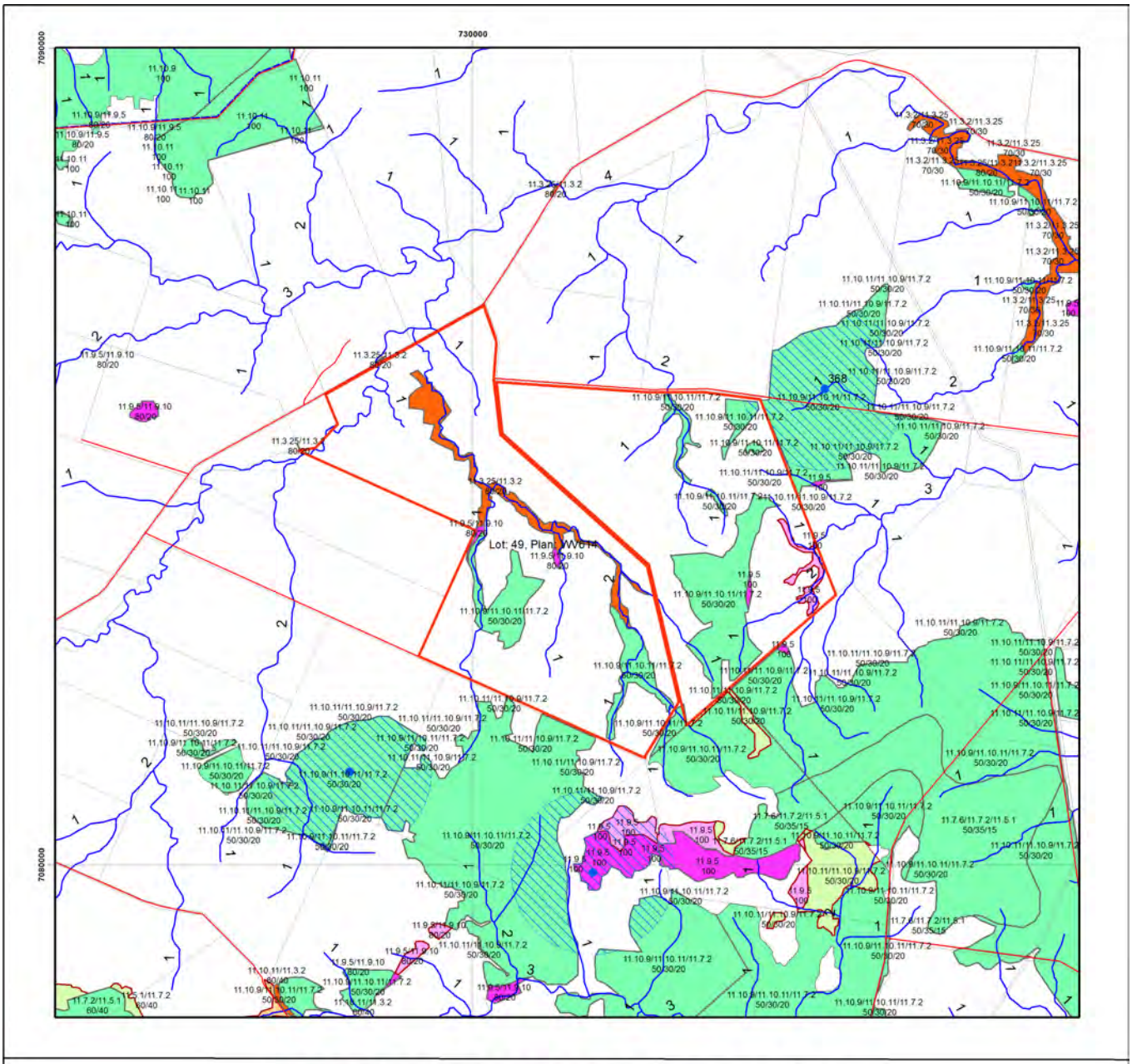

Vegetation Management Supporting Map

Legend

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- Category A or B area containing endangered regional ecosystems
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- Category A or B area that is a least concern regional ecosystem
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  These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map
  (Stream order shown as black number against stream where available)
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- National Parks, State Forest and other reserves
- Cadastral line
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Queensland Government

LOCALITY DIAGRAM

N

0 480 960 1,440 1,920 2,400 m

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Vegetation Management Act 1999 - Extract from the essential habitat database

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Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

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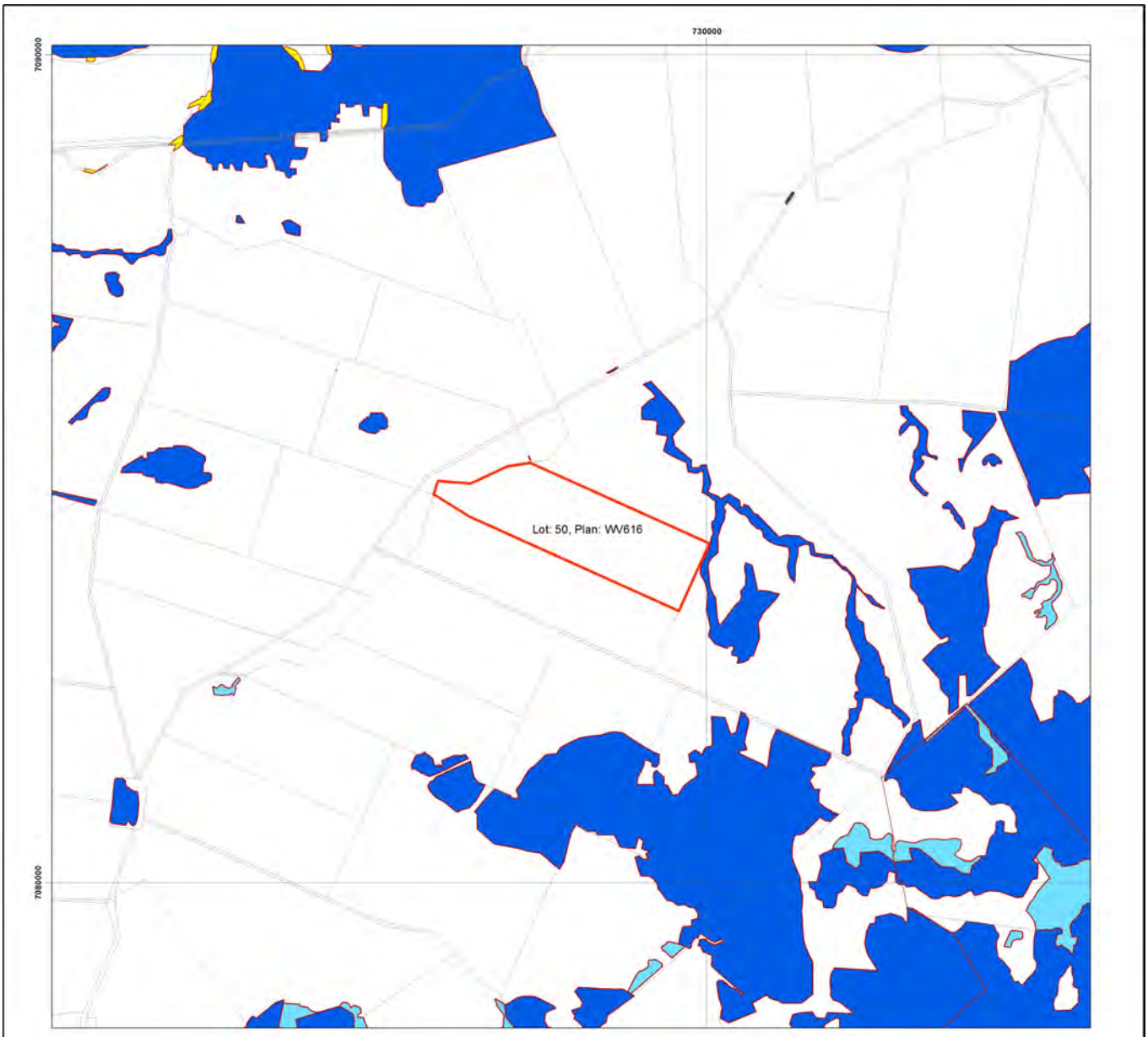
Protected wildlife includes endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
368	Strophurus taenicauda	Golden-tailed Gecko	NT	Open Acacia scrubs, eucalypt and Callitris woodland, and dry sclerophyll forest.	150-600m.	None	None

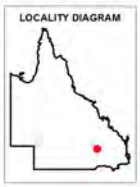
Label	Regional Ecosystem (mandatory unless otherwise specified)
368	11.1.4, 11.2.1, 11.2.2, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.8, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.20, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.34, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.5, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.16, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 11.12.21



Regulated Vegetation Management Map

Legend

- Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold. Indigenous and Leasehold land)
- Water
- Area not categorised
- Cadastral line
  Property boundaries shown are provided as a locational aid only



N

0 675 1,350 2,025 2,700 3,375 m

This product is projected into:
GDA 1994 MGA Zone 55

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This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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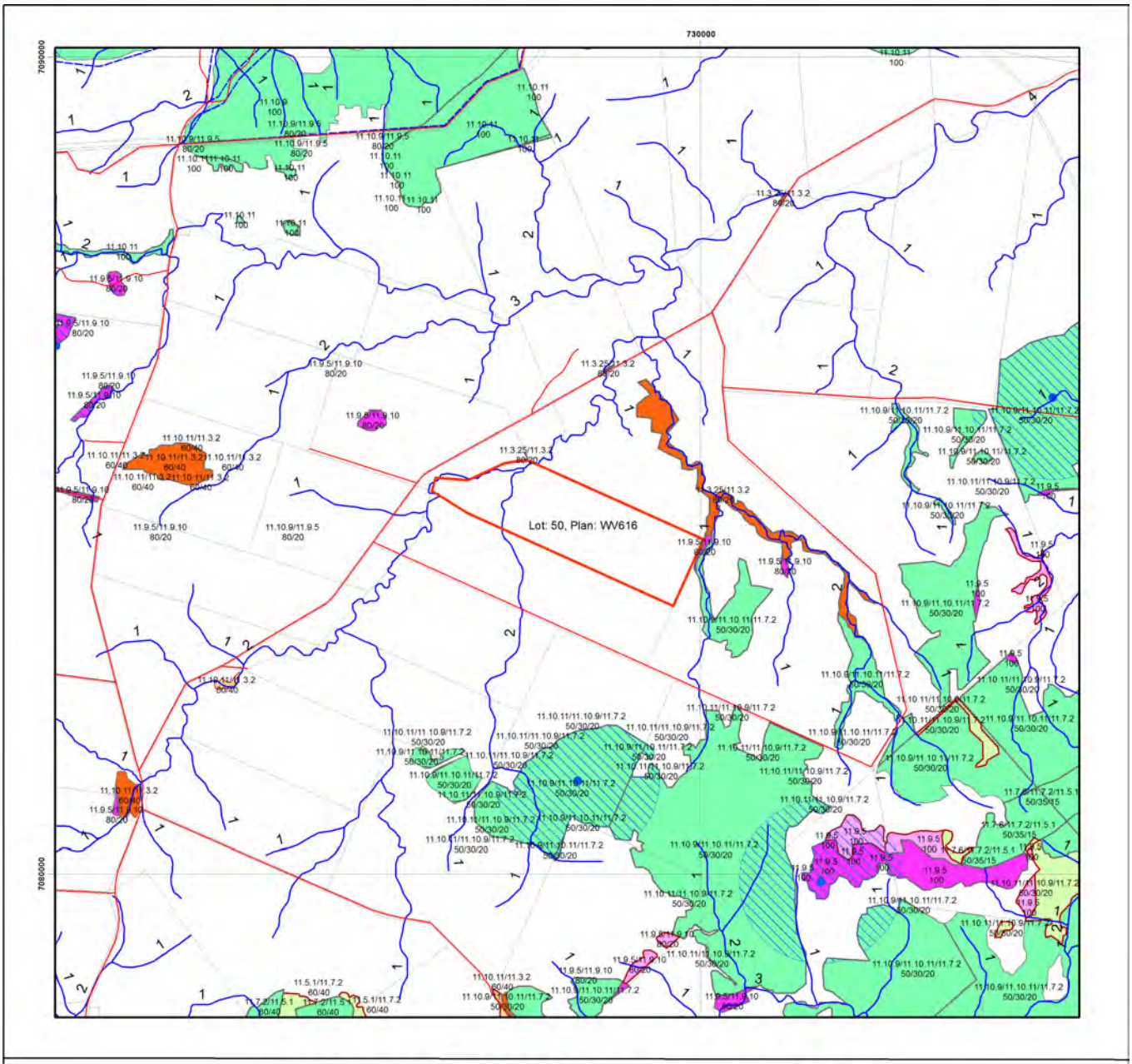

Vegetation Management Supporting Map

Legend

- Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area under Section 20AH
  These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map
  (Stream order shown as black number against stream where available)
- Roads
- National Parks, State Forest and other reserves
- Cadastral line
  Property boundaries shown are provided as a locational aid only

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LOCALITY DIAGRAM

N

0 480 960 1,440 1,920 2,400 m

This product is projected into:
GDA 1994 MGA Zone 55

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - State Code 16: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Planning Act 2016*; and
- Accepted development vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

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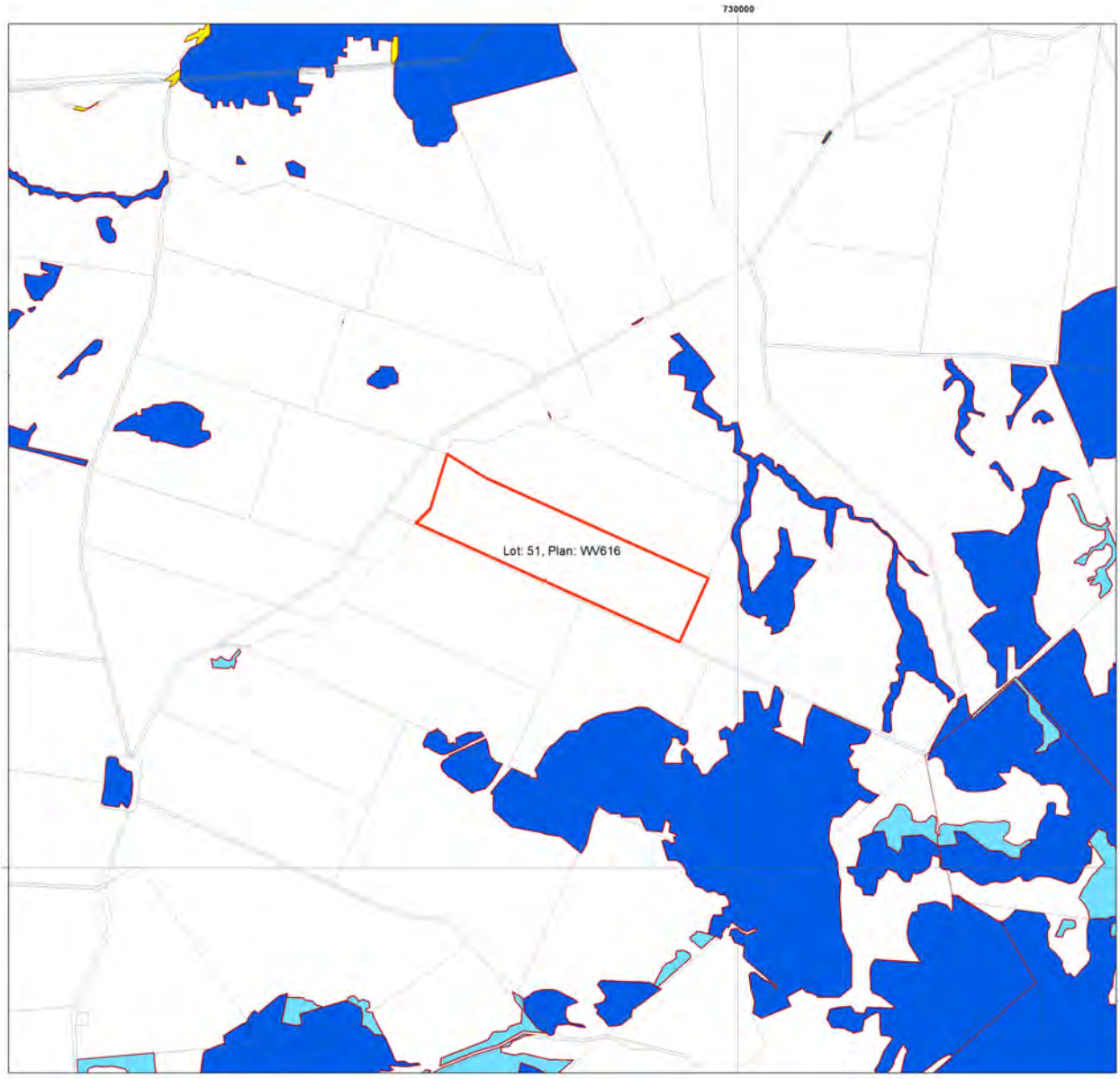
Protected wildlife includes endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

No records



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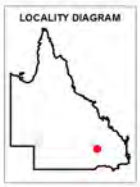

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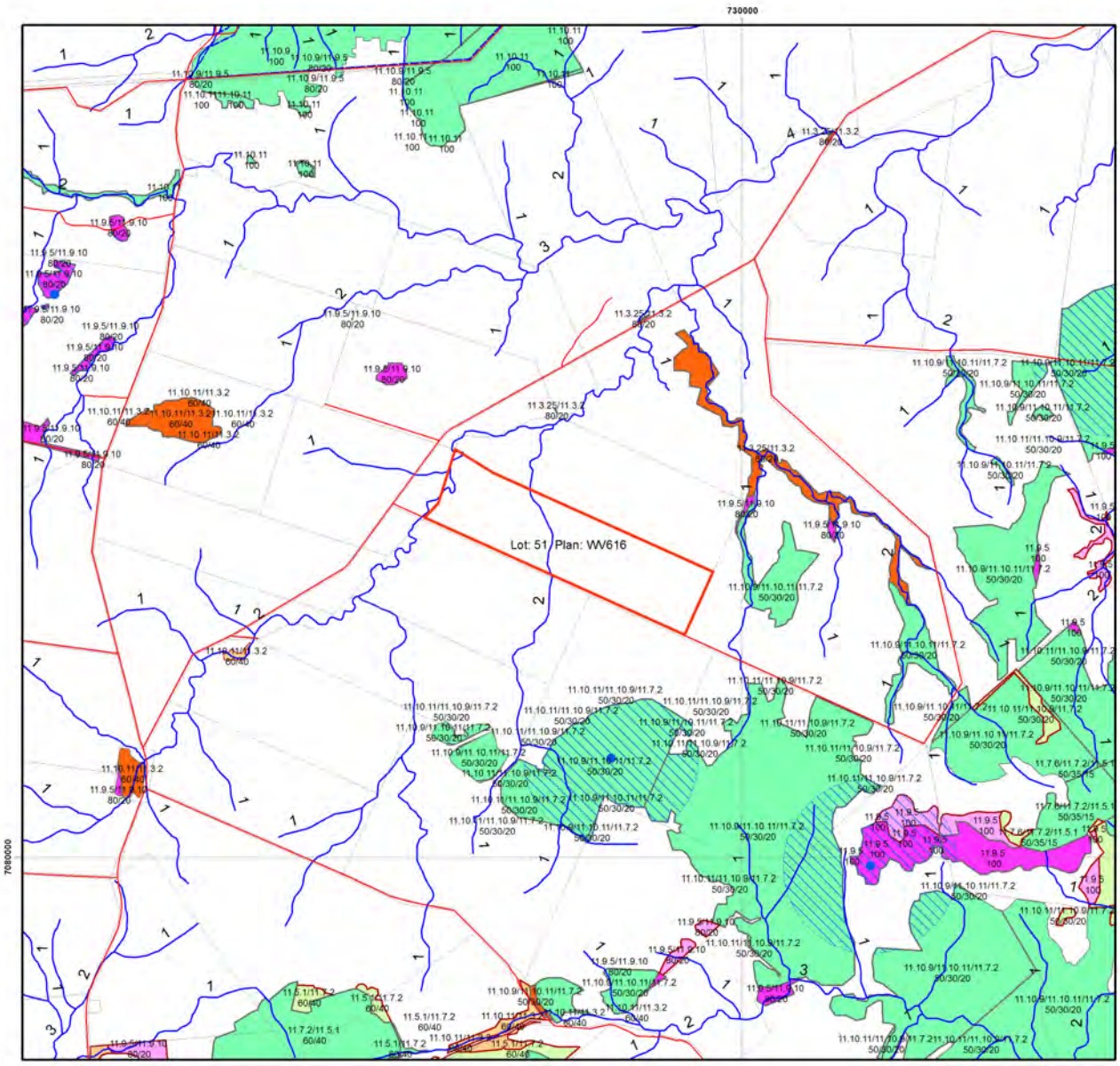

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Essential habitat in Category A and/or Category B and/or Category C

No records

Appendix G List of Flora and Fauna Species Identified on Site

Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Flora			
Acacia catenulata	bendee	Least concern	-
Acacia conferta	crowded-leaf wattle	Least concern	-
Acacia crassa	curracabah	Least concern	-
Acacia decora	silver wattle	Least concern	-
Acacia excelsa	ironwood	Least concern	-
Acacia salicina	sally wattle	Least concern	-
Acacia harpophylla	brigalow	Least concern	-
Acacia leiocalyx	black wattle	Least concern	-
Acacia longispicata	slender flower wattle	Least concern	-
Acacia shirleyi	lancewood	Least concern	-
Acacia sparsiflora	currawong	Least concern	-
Acacia sp.	-	-	-
Alectryon oleifolius	boonaree	Least concern	-
Alectryon diversifolius	holly bush	Least concern	-
Allocasuarina littoralis	black sheoak	Least concern	-
Allocasuarina luehmannii	bulloak	Least concern	-
Alphitonia excelsa	red ash	Least concern	-
Alstonia constricta	bitterbark	Least concern	-
Ancistrachne uncinulata	hooked-hairy panic grass	Least concern	-

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Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Angophora leiocarpa	smooth-barked apple	Least concern	-
Aristida calycina	dark wiregrass	Least concern	-
Aristida caput-medusae	many-headed wiregrass	Least concern	-
Aristida jerichoensis	jericho wiregrass	Least concern	-
Aristida latifolia	feather-top wiregrass	Least concern	-
Arundinella nepalensis	reedgrass	Least concern	-
Atalaya hemiglauca	whitewood	Least concern	-
Atriplex muelleri	Mueller's saltbush	Least concern	-
Auranticarpa rhombifolia	diamond leaf pittosporum	Least concern	-
Boerhavia dominii	tarvine	Least concern	-
Bothriochloa bladhii	forest bluegrass	Least concern	-
Bothriochloa decipiens	red grass	Least concern	-
Brachychiton populneus	kurrajong	Special Least Concern	-
Brachychiton rupestris	narrow-leaved bottle tree	Special Least Concern	-
Brunoniella australis	blue trumpet	Least concern	-
Bursaria spinosa	Australian blackthorn	Least concern	-
Callitris endlicheri	black cypress pine	Least concern	-
Callitris glaucophylla	white cypress pine	Least concern	-
Capparis lasiantha	wait-a-while	Least concern	-
Capparis loranthifolia	-	Least concern	-
Carissa ovata	currant bush	Least concern	-
Casuarina cristata	belah	Least concern	-

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Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Cenchrus ciliaris	buffel grass	Introduced	-
Cheilanthes sieberi	mulga fern	Special Least Concern	-
Chloris gayana	Rhodes grass	Introduced	-
Chloris truncata	windmill grass	Least concern	-
Chloris virgata	feathertop Rhodes grass	Introduced	-
Chrysocephalum apiculatum	yellow buttons	Least concern	-
Chrysopogon fallax	-	Least concern	-
Corymbia clarksoniana	Clarkson's bloodwood	Least concern	-
Corymbia intermedia	pink bloodwood	Least concern	-
Corymbia tessellaris	Moreton Bay ash	Least concern	-
Cyperus sp.	-	-	
Cymbopogon refractus	barbed wire grass	Least concern	-
Cymbidium canaliculatum	black orchid	Special Least Concern	-
Dactyloctenium radulans	button grass	Least concern	-
Dianella caerulea	blue flax-lily	Least concern	-
Digitaria divaricatissima	umbrella grass	Least concern	-
Enchylaena tomentosa	ruby saltbush	Least concern	-
Enneapooan sp.	-	-	-
Enneapogon nigricans	purpletop grass	Least concern	-
Enteropogon acicularis	curly windmill grass	Least concern	-
Enteropogon ramosus	windmill grass	Least concern	-
Eragrostis lacunaria	purple love grass	Least concern	-

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Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Eragrostis sororia	love grass	Least concern	-
Eremophila deserti	-	Least concern	-
Eremophila mitchellii	false sandalwood	Least concern	-
Eucalyptus chloroclada	dirty gum	Least concern	-
Eucalyptus camaldulensis	river red gum	Least concern	-
Eucalyptus crebra	narrow-leaved ironbark	Least concern	-
Eucalyptus fibrosa. Subsp. nubila	broad-leaved ironbark	Least concern	-
Eucalyptus melanophloia	silver-leaved ironbark	Least concern	-
Eucalyptus populnea	poplar box	Least concern	-
Eucalyptus tereticornis	blue gum	Least concern	-
Flindersia australis	crow's ash	Least concern	-
Geijera parviflora	wilga	Least concern	-
Glandularia aristigera	Mayne's pest	Introduced	-
Grevillea striata	beefwood	Least concern	-
Gomphrena celosioides	gomphrena weed	Introduced	-
Hakea lorea	bootlace oak	Least concern	-
Heteropogon contortus	black speargrass	Least concern	-
Hovea longipes	hovea	Least concern	-
Jasminum didymum	native jasmine	Least concern	-
Leptochloa digitata	whorled cane grass	Least concern	-
Leptochloa decipiens	slender cane grass	Least concern	-
Lomandra filiformis	wattle mat-rush	Least concern	-

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Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Lomandra sp.	mat-rush	Least concern	-
Megathyrsus maximus	guinea grass	Introduced	-
Melinis repens	red Nnatal grass	Introduced	-
Notelaea microcarpa	-	Least concern	-
Opuntia stricta	prickly pear	Category 3 Restricted	WoNS
Opuntia tomentosa	velvety tree pear	Category 3 Restricted	WoNS
Owenia acidula	emu apple	Least concern	-
Paspalidium caespitosum	brigalow grass	Least concern	-
Paspalidium sp.	panicgrass	Least concern	-
Petalostigma pubescens	quinine bush	Least concern	-
Portulaca oleracea	common purslane	Introduced	-
Psydrax oleifolia	brush myrtle	Least concern	-
Psydrax odorata	-	Least concern	-
Ptilotus sp.	pussytails	-	-
Salsola australis	soft rolypoly	Least concern	-
Scleria levis	-	-	-
Sclerolaena birchii	-	Least concern	-
Senecio sp.	-	-	-
Setaria sp.	pigeon grass	-	-
Sida cordifolia	flannel weed	Introduced	-
Ventilago viminalis	supplejack	Least concern	-
Fauna			

Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Acanthagenys rufogularis	Spiny-cheeked Honeyeater	Least concern	-
Acanthiza apicalis	Inland Thornbill	Least concern	-
Acanthiza chrysorrhoa	Yellow-rumped Thornbill	Least concern	-
Aprosmictus erythropterus	Red-winged Parrot	Least concern	-
Aquila audax	Wedge-tailed Eagle	Least concern	-
Ardeotis australis	Australian Bustard	Least concern	-
Artamus leucorynchus	White-breasted Woodswallow	Least concern	-
Cacatua galerita	Sulphur-crested Cockatoo	Least concern	-
Carlia sp.	Rainbow Skink	Least concern	-
Chenonetta jubata	Australian Wood Duck	Least concern	-
Corvus orru	Torresian Crow	Least concern	-
Cracticus nigrogularis	Pied Butcherbird	Least concern	-
Cracticus tibicen	Australian Magpie	Least concern	-
Daphoenositta chrysoptera	Varied Sittella	Least concern	-
Dromaius novaehollandiae	Emu	Least concern	-
Entomyzon cyanotis	Blue-faced Honeyeater	Least concern	-
Eolophus roseicapillus	Pink Galah	Least concern	-
Geopelia striata	Peaceful Dove	Least concern	-
Gerygone albogularis	White-winged Gerygone	Least concern	-
Grallina cyanoleuca	Magpie-lark	Least concern	-
Hirundo neoxena	Welcome Swallow	Least concern	-
Lepus capensis	European Brown Hare	Introduced	-

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Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Macropus giganteus	Eastern Grey Kangaroo	Least concern	-
Macropus rufogriseus	Red-necked Wallaby	Least concern	-
Manorina melanocephala	Noisy Miner	Least concern	-
Microeca fascinans	Jacky Winter	Least concern	-
Ocyphaps lophotes	Crested Pigeon	Least concern	-
Oryctolagus cuniculus	Rabbit	Restricted Matter Category 3, 4, 5 & 6	-
Pachycephala rufiventris	Rufous Whistler	Least concern	-
Pardalotus striatus	Striated Pardalote	Least concern	-
Platycercus adscitus	Pale-headed Rosella	Least concern	-
Pomatostomus temporalis	Grey-crowned Babbler	Least concern	-
Psephotus haematonotus	Red-rumped Parrot	Least concern	-
Rhipidura albiscapa	Grey Fantail	Least concern	-
Rhipidura leucophrys	Willie Wagtail	Least concern	-
Smicrornis brevirostris	Weebill	Least concern	-
Strepera graculina	Pied Currawong	Least concern	-
Struthidea cinerea	Apostle Bird	Least concern	-
Struthidea cinerea	Apostlebird	Least concern	-
Sus scrofa	Pig	Restricted Matter Category 3, 4 & 6	-
Tachyglossus aculeatus	Short-beaked Echidna	Least concern	-
Taeniopygia bichenovii	Double-barred Finch	Least concern	-
Vanellus miles	Masked Lapwing	Least concern	-

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Scientific name	Common name	Legislative status (NC Act)	Legislative status (EPBC Act)
Varanus gouldii	Sand Goanna	Least concern	-
Wallabia bicolor	Swamp Wallaby	Least concern	-

Appendix H Ground Truthed Threatened Ecological Communities

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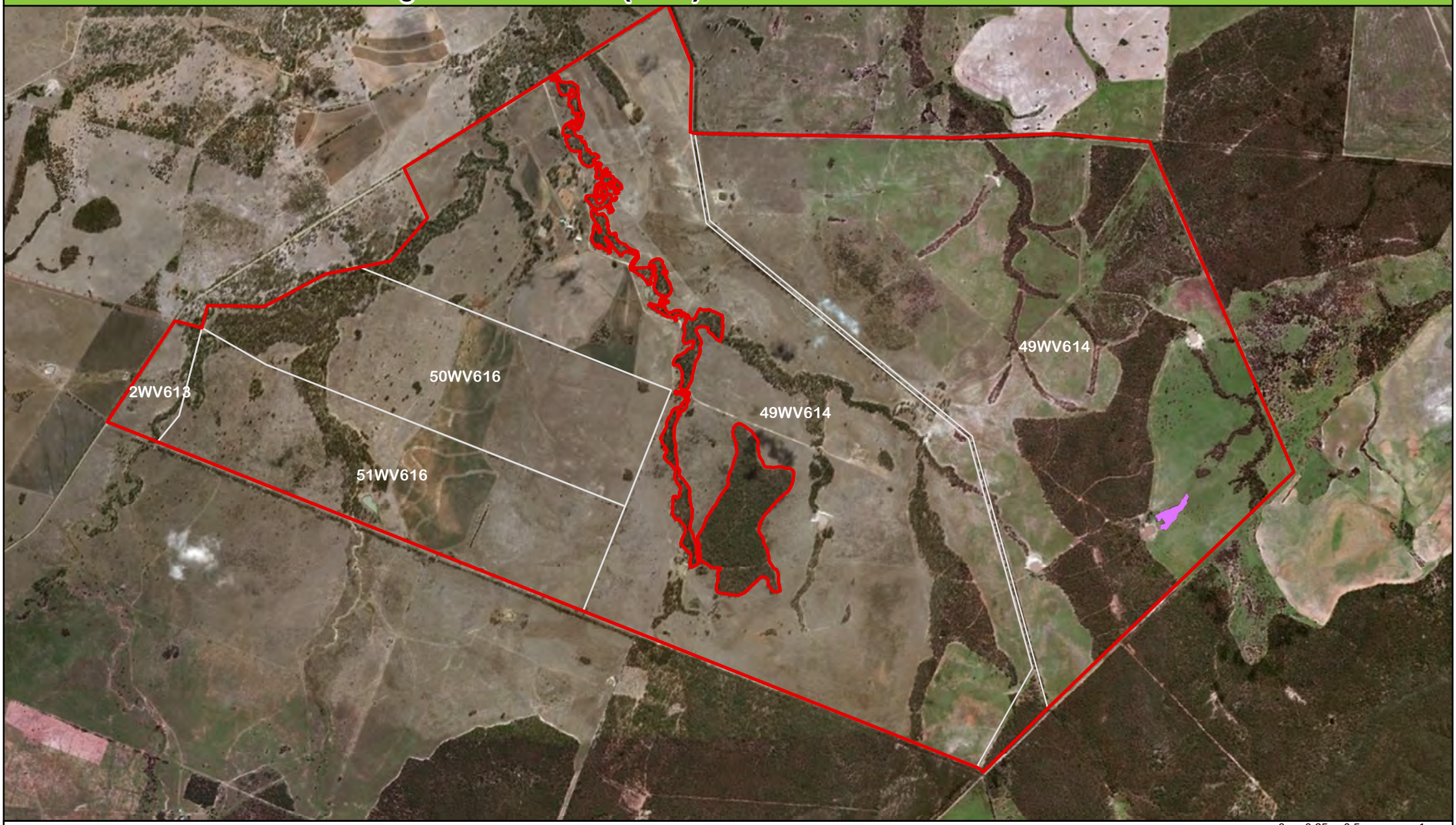
Ground-truthed Threatened Ecological Communities (TECs)



Legend

- Study Area
- Ground-truthed Brigalow TEC (*Acacia harpophylla* dominant and co-dominant)
- Cadastre

0 0.25 0.5 1
Kilometres

Datum/Projection:
GDA 1994 MGA Zone 55

N

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Appendix I Ground-truthed Regional Ecosystems

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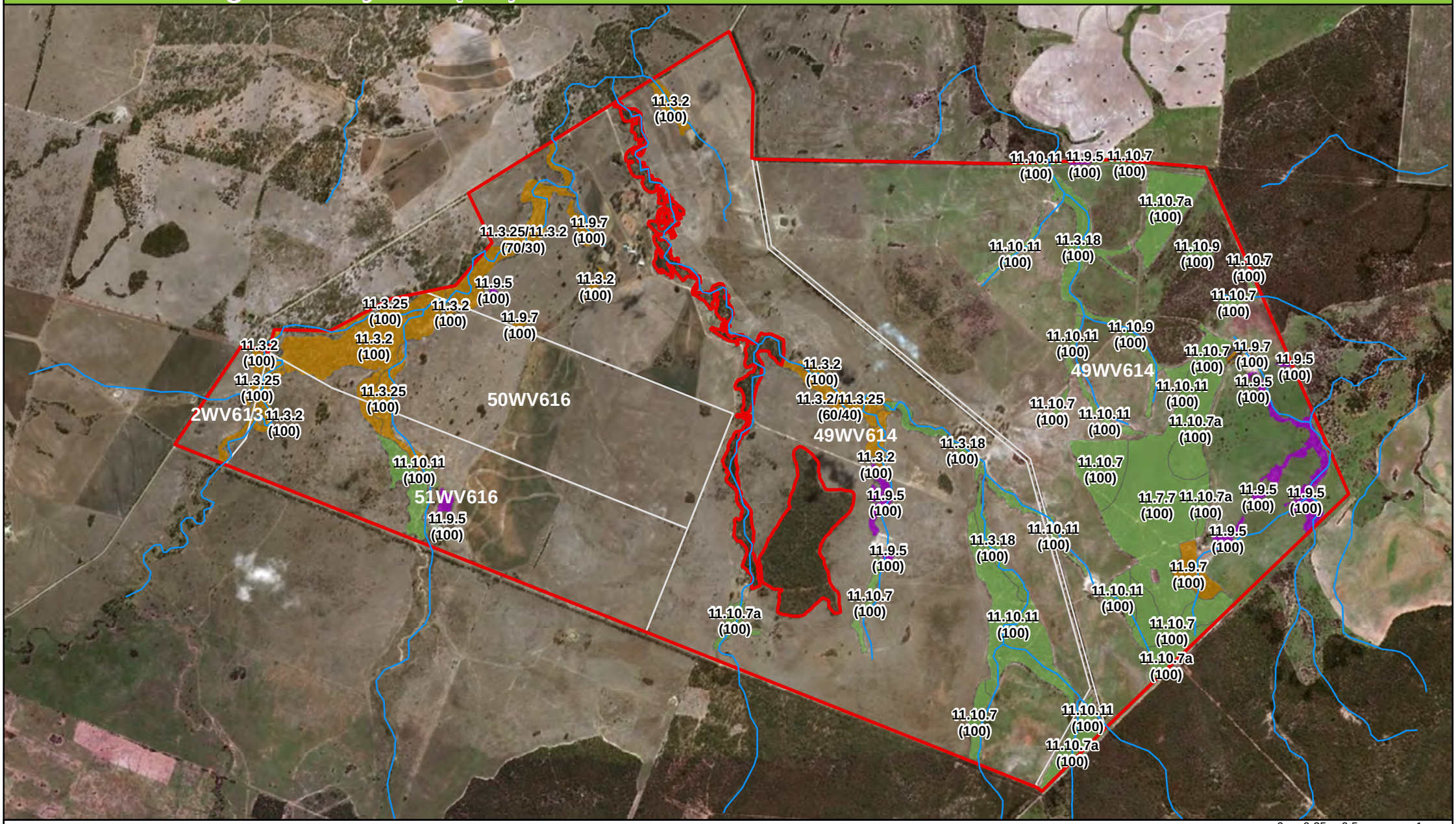
Ground-truthed Regional Ecosystems (REs)



Legend

- Water Feature
- Study Area
- Cadastre

Biodiversity Status (Condition)

- Endangered (Remnant)
- Endangered (Regrowth)
- Of concern (Remnant)
- Of concern (Regrowth)
- No concern at present (Remnant)

0 0.25 0.5 1
Kilometres

Datum/Projection:
GDA 1994 MGA Zone 55

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Appendix J Ground Truthed Drainage Features, Watercourses and Wetlands Present on Site

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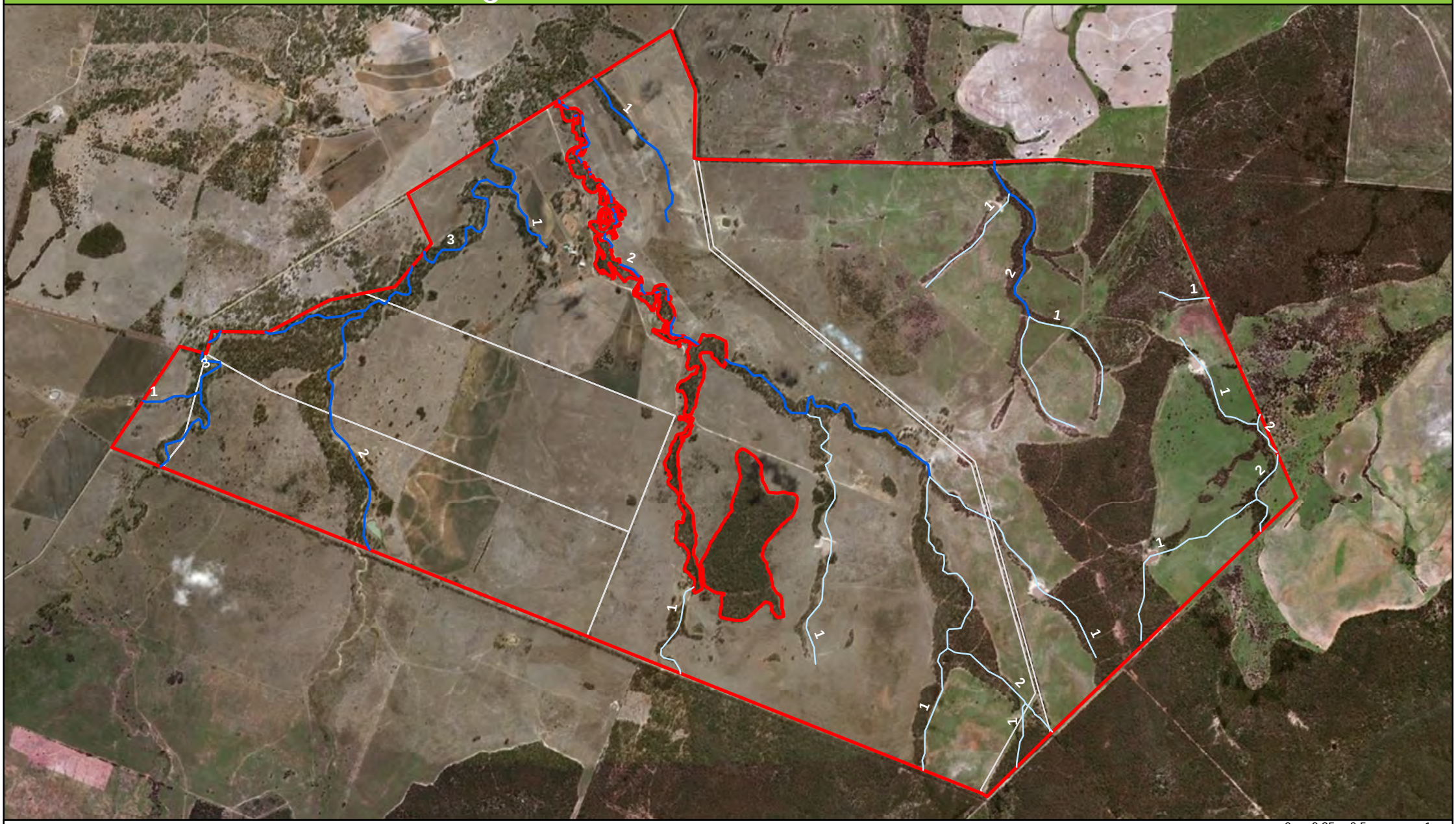
Ground-truthed watercourse and drainange features



Legend

- Study Area
- Cadastre

Ground-truthed Water Feature

- Drainage
- Watercourse

0 0.25 0.5 1
Kilometres

Datum/Projection:
GDA 1994 MGA Zone 55

N

Prepared by: JD Date: 31/05/2019

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Appendix K Likelihood of Occurrence Assessment

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Threatened Ecological Community							
Brigalow (*Acacia harpophylla* dominant and co-dominant)			E	-	The community occurs within Queensland and New South Wales. *Acacia harpophylla* is commonly the dominant species in a range of open forests and woodlands; these are collectively referred to as brigalow woodlands. The community is characterised by the presence of *A. harpophylla* as one of the most abundant tree species. *A. harpophylla* is either, dominant in the tree layer, or co-dominant with other species – notably *Casuarina cristata* (belah), other species of *Acacia*, or species of *Eucalyptus*. Occasionally these other species may be more common than *A. harpophylla* within the broad matrix of brigalow woodlands vegetation. The community has a considerable range of vegetation structure and composition united by a suite of species that tend to occur on acidic and salty clay soils.	RE11.9.5	Known The community was recorded during vegetation ground-truthing surveys undertaken throughout the study area.
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions			E	-	The community is associated with the floodplains and drainage areas of the Darling Riverine Plains and the Brigalow Belt South bioregions. This ecological community represents occurrences of one type of eucalypt woodland where *Eucalyptus coolabah* subsp. *coolabah* (Coolibah, Coolabah) and/or *Eucalyptus largiflorens* (Black Box) are the dominant canopy species and where the understorey tends to	NA	Absent. The community was not recorded during vegetation ground-truthing surveys undertaken throughout the study area.

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
					be grassy. The community is found on the grey, self-mulching clays of periodically waterlogged floodplains, swamp margins, ephemeral wetlands, and stream levees.		
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions			E	-	The community is found in eastern Queensland and Northern New South Wales and is considered an extreme form of dry seasonal subtropical rainforest. The community is characterised by the prominence of trees with microphyll sized leaves (i.e. leaves usually 2.5–7.6 cm long), the presence of Bottle Trees (*Brachychiton* spp.) as emergents from the vegetation, and the thickets occurring in areas with a subtropical, seasonally dry climate on soils of high to medium fertility	NA	Absent. The community was not recorded during vegetation ground-truthing surveys undertaken throughout the study area
Weeping Myall Woodlands			E	-	The community occurs on the inland alluvial plains west of the Great Dividing Range in NSW and Queensland. The community ranges from open woodlands to woodlands, generally 4-12 m, in which Weeping Myall (*Acacia pendula*) is the sole or dominant overstorey species.	NA	Absent. The community was not recorded during vegetation ground-truthing surveys undertaken throughout the study area.
Fauna							
Pythonidae	*Aspidites ramsayi*	Woma	-	NT	Woma is found in desert dune fields and on sandy plains with hummock grasses. Is also known to occur on black soils and in stony ridge country. Woma is a ground dweller that seeks shelter in hollow logs, animal burrows or thick herbage during the day.	RE11.10.9; 11.10.7a, 11.10.7, 11.9.5, 11.10.11, 11.7.7	Likely. Suitable habitat, known records near the study area (<20 km)
Scolopacidae	*Calidris ferruginea*	Curlew Sandpiper	CE, Mi	E	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around	NA	Unlikely.

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
					non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.		No suitable habitat or records nearby.
Cacatuidae	*Calyptorhynchus lathami lathami*	Glossy-black Cockatoo	-	V	Glossy-black Cockatoo prefers woodlands dominated by Allocasuarina and Casuarina spp. The species feeds almost exclusively on the seeds of these trees.	RE11.9.5, 11.10.9, 11.7.7 where Belah or Bulloke may be dominant	Likely. Suitable habitat and known records near the study area (<20 km)
Vespertilionidae	*Chalinolobus dwyeri*	Large-eared Pied bat	V	V	Large-eared Pied Bat requires cliffs and fertile woodland valley habitat within close proximity of each other. Rainforests and moist eucalypt forest habitats or high elevation. Sandstone cliffs and escarpments are often used as roosting habitat.	NA	Unlikely. No suitable habitat or records nearby.
Dasyuridae	*Dasyurus hallucatus*	Northern Quoll	E	V	Habitat features include high relief areas that have shallower soils, boulders and rocky areas for denning, low fire impact and close to permanent water. The species occupies a diversity of habitats across its range including Eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert. Habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal. Rocky habitats are usually of high relief, often rugged and dissected but can also include tor fields or caves in low lying areas. Eucalypt forest or woodland habitats usually have a high structural diversity containing large diameter trees, termite mounds or hollow logs for denning purposes. Dens are made in rock crevices, tree holes or occasionally termite mounds.	NA	Unlikely. No suitable habitat, no records nearby.

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Pygopodidae	*Delma torquata*	Collared Delma	V	V	The species requires the presence of rocks, logs, bark and other coarse woody debris and mats of litter.	RE11.7.7, 11.10.7, 11.10.11	Potential. Marginal habitat within the study area, records in the wider region (~60 km).
Elapidae	*Denisonia maculata*	Ornamental Snake	V	V	The species preys on frogs and requires habitats within close proximity to its food resource. Commonly found in gilgai depressions with cracking clays and an abundance of fallen woody debris in the Brigalow Belt.	NA	Unlikely. No suitable habitat within the study area and is outside of the species known range.
Scincidae	*Egernia rugosa*	Yakka Skink	V	E	The Yakka Skink is known to occur in open dry sclerophyll forest, woodland and scrub. Requires cavities under and between partly buried rocks, logs or tree stumps or abandoned animal burrows for shelter.	RE11.7.7, 11.10.7a, 11.10.11, 11.9.7	Potential. Suitable habitat and records in the wider region (~30 km) Habitat associated with RE11.10.9 is considered too sandy to form suitable burrows.
Accipitridae	*Erythrotriorchis radiatus*	Red Goshawk	V	V	The Red Goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia. The species nests in large trees within 1 km of permanent water source.	NA	Unlikely. No suitable habitat. Species range now severely retracted.
Elapidae	*Furina dunmalli*	Dunmall's Snake	V	V	Dunmall's Snake has been found in a broad range of habitats, including black alluvial cracking clays, clay loams dominated by Brigalow, Callitris spp. and Bulloke, as well as open forests on sandstone derived soils dominated by *Callitris glaucophylla* and Bulloke.	RE11.10.9, 11.10.7a, 11.10.11, 11.9.5	Potential. Marginal habitat. Records in the wider region (~50 km)
Columbidae	*Geophaps scripta scripta*	Squatter Pigeon	V	V	The Squatter Pigeon prefers open forest habitat to sparse open woodlands and scrub that are remnant, regrowth or partly modified, dominated by *Eucalyptus, Corymbia, Acacia* or *Callitris* spp. and	RE11.10.9, 11.10.7a, 11.10.7, 11.10.11, 11.9.5	Likely. Suitable habitat. Records in the wider region (~40 km)

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
					within 3 km of water bodies. They prefer well-draining, sandy or loamy soils on gently sloping flat to undulating plains and foothills.		
Meliphagidae	*Grantiella picta*	Painted Honeyeater	V	V	Painted Honeyeater diet consists of mainly mistletoe fruits and prefers woodlands that contain a high number of mature trees that support an abundance of mistletoe.	11.10.11, 11.3.25	Potential No suitable habitat. Records in the wider region (~40 km)
Vespertilionidae	*Nyctophilus corbeni*	Corben's Long-eared Bat	V	V	Corben's Long-eared Bat is known to use a variety of habitats, including those dominated by Callitris spp., Brigalow, Belah and Bulloke. The species has also been found to be much more abundant in habitats that have a distinct tree canopy and a dense, cluttered understorey layer	RE11.10.9, 11.10.7a, 11.9.5, 11.10.11, 11.3.18	Potential. Suitable habitat. Records in the wider region (~60 km)
Petauridae	*Petauroides volans*	Greater Glider	V	V	Greater Glider is found where there is an abundance of old-growth trees with hollows. The species favours habitats with a variety of eucalypt species.	RE11.3.2, 11.3.25	Potential. Suitable habitat within the study area. Records within the wider region (~50 km)
Phascolarctidae	*Phascolarctos cinereus*	Koala	V	V	Koalas inhabit a range of temperate, sub-tropical and tropical forests dominated by *Eucalyptus* spp. Koala habitat is defined as woodlands containing known Koala food trees, or shrublands with emergent food trees. Preferred food and shelter trees often occur on fertile clay soils.	RE11.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Likely. Suitable habitat within the study area. Records within the wider region (~20 km)
Chelidae	*Rheodytes leukops*	Fitzroy River Turtle	V	V	The Fitzroy River Turtle is found in rivers with large deep pools with rocky, gravelly or sandy substrates, connected by shallow riffles	NA	Unlikely. No suitable habitat.
Rostratulidae	*Rostratula australis*	Australian Painted Snipe	E	NT	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish)	NA	Unlikely. No suitable habitat.

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Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
					wetlands, including temporary and permanent lakes, swamps and claypans.		
Diplodactylidae	*Strophurus taenicauda*	Golden-tailed Gecko	-	NT	The golden-tailed gecko lives in open woodland and open forest where it shelters under loose bark and hollow limbs. Species shelters under loose bark or in hollows. Often found in *Callitris* spp. and Bulloke woodlands.	RE11.10.9, 11.10.7a, 11.9.5	Likely. Suitable habitat and one known record within 2km of the study area (recorded in RE11.7.2 in 2009) (ALA 2019).
Tachyglossidae	*Tachyglossus aculeatus*	Short-beaked Echidna	-	SLC	Inhabits a wide range or terrestrial habitat wherever there are plentiful food sources (ants or termites), including desert, rainforest, open forest, bushland, farmland and urban areas.	RE11.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Known. One individual was identified within the study area.
Migratory Fauna							
Apodidae	*Apus pacificus*	Fork-tailed Swift	Mi	SLC	The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground. The species often occurs over inland plains.	RE11.10.11, 11.10.7, 11.10.7a, 11.10.9, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Potential Exclusively aerial species.
Scolopacidae	*Calidris acuminata*	Sharp-tailed Sandpiper	Mi	-	Widespread across the coast and inland, preferring muddy edges of shallow fresh or brackish wetlands with inundated or emergent sedges, grasses, saltmarsh or other low vegetation.	NA	Unlikely. No suitable habitat.
Scolopacidae	*Calidris ferruginea*	Curlew Sandpiper	CE, Mi	-	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	NA	Unlikely. No suitable habitat.

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Scolopacidae	*Calidris melanotos*	Pectoral Sandpiper	Mi	-	Most records occur around Cairns with scattered records elsewhere. Prefers shallow fresh to saline wetlands such as coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	NA	Unlikely. No suitable habitat.
Cuculidae	*Cuculus optatus*	Oriental Cuckoo	Mi	SLC	Monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands.	NA	Unlikely. No suitable habitat.
Scolopacidae	*Gallinago hardwickii*	Latham's Snipe	Mi	-	Monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands. The species inhabits wetlands with low, dense vegetation and grasslands or riparian corridors.	NA	Unlikely. No suitable habitat.
Apodidae	*Hirundapus caudacutus*	White-throated Needletail	Mi	SLC	Recorded in all coastal regions of Qld and is almost exclusively aerial (1-1000 m above ground), occurring over a variety of habitats with a preference for wooded areas.	RE11.10.11, 11.10.7, 11.10.9 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Potential Almost exclusively aerial.
Motacillidae	*Motacilla flava*	Yellow Wagtail	Mi	SLC	Occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, sewage farms and bogs to damp steppe and grassy tundra	NA	Unlikely. No suitable habitat.
Dicruridae	*Myiagra cyanoleuca*	Satin Flycatcher	Mi	SLC	Widespread but scattered in the east. Mainly inhabits eucalypt forests, often near wetlands or watercourses. They also occur in eucalypt woodlands with open understorey and grass ground cover, and are generally absent from rainforest	NA	Unlikely. No suitable habitat
Flora							

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
Sterculiaceae	*Brachychiton populneus*	Kurrajong	-	SLC	The species occurs in a wide range of habitats and soils, from deep sandy loams on plains, to skeletal types on rocky hilltops.	RE11.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Known. The species was found in numerous locations across the study area.
Sterculiaceae	*Brachychiton rupestris*	Narrow-leaved Bottle Tree	-	SLC	The species occurs in a wide range of habitats and soils, from deep sandy loams on plains, to skeletal types on rocky hilltops.	RE11.9.5	Known. The species was found in numerous locations across the study area.
Surianaceae	*Cadellia pentastylis*	Ooline	V	V	Ooline grows in semi-evergreen vine thickets, Brigalow-belah and poplar box communities on undulating terrain of various geology, including sandstone, conglomerate and claystone.	RE11.9.5	Unlikely. Species was not observed during the survey. Small areas of suitable habitat occur within the study area. Known records within 10 km north (ALA 2019).
Adiantaceae	*Cheilanthes sieberi*	Mulga Fern	-	SLC	The species grows in arid and non-arid areas, in exposed rocky habitats, in rock crevices or shelter of rocks, quite often in open grazing country.	RE11.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Known. The species was found in numerous locations across the study area.
Poaceae	*Dichanthium setosum*	Bluegrass	V	-	Associated with heavy basaltic black soils and stony red-brown hard-setting loam with clay subsoil and is found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture.	NA	Unlikely. No suitable habitat occurs within the study area, no records in the wider region (ALA 2019).
Poaceae	*Homopholis belsonii*	Belson's Panic	V	E	Flat to gently undulating alluvial areas supporting *Casuarina cristata* forest and sometimes *Acacia harpophylla*.	RE11.9.5	Potential. Suitable habitat occurs within the study area. Records in the

Family	Scientific Name	Common Name	EPBC Status	NC Act Status	Habitat	Potentially Suitable RE within study area	Likelihood of occurrence
							wider region (~50km) (ALA 2019).
Apocynaceae	*Tylophora linearis*		E	E	Tylophora linearis grows in dry scrub, open forest and woodlands associated with *Melaleuca uncinata, Eucalyptus fibrosa, E. sideroxylon, E. albens, Callitris endlicheri, C. glaucophylla, Allocasuarina luehmannii, Acacia hakeoides, A. lineata, Myoporum* spp., and *Casuarina* spp.	NA	Unlikely. Marginal habitat within the study area and no records in the wider region (ALA 2019).
Orchidaceae	*Cymbidium canaliculatum*	Black Orchid	-	SLC	The species grows predominantly in open sclerophyll forests and woodlands. Grows as an epiphyte in tree forks or hollows.	RE11.10.11, 11.10.7, 11.10.7a, 11.3.18, 11.3.2, 11.3.25, 11.7.7, 11.9.5, 11.9.7	Known. The species was found in numerous locations across the study area.

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