



Ecology Assessment of the Muckaty Solar Project Area

AAPowerLink Australia Assets Pty Ltd



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EXECUTIVE SUMMARY

AAPowerLink Australia Assets Pty Ltd (SunCable) is proposing to develop the Muckaty Solar Project within the Barkly Region Local Government Area of the Northern Territory. The project is proposed to be located on Muckaty Aboriginal Land Trust (ALT).

EcOz Environmental Consultants (EcOz) was engaged by SunCable to prepare an Ecology Assessment report (this report) to identify terrestrial ecological values and constraints at three nested levels – across the entire ALT, within a solar *project area* that approximately constitutes the western half on the property, and within *areas of interest* (AOI) identified by SunCable that are a sub-set of the project area.

This report was informed using desktop research and a 5-day field survey. The focus of the field survey was on the AOIs and immediate surrounds.

Muckaty ALT is characterised by a varied environment – including areas of loamy plains, desert sandplains, lateritic plains and rises and low sandstone hills. Vegetation across the project area are largely grasslands and woodlands, and there are areas of significant vegetation and habitat features – including drainage depressions, ephemeral swamps, riparian vegetation and rocky refugia. The ALT is used for low-intensity cattle grazing (mainly to the east of the railway).

The solar project area mainly features desert sandplains and loamy plains. These support open Eucalyptus woodlands, hummock grasslands, and isolated patches of more rugged terrain. The southern part of the project area contains isolated hills and patches of laterite rise, while the central, northern and eastern portions feature alluvial plains and ephemeral waterways associated with Burke Creek and Tomkinson Creek. Ephemeral depressions and swamps are scattered across the site, typically located at outflow plains of the major waterways.

The AOI lie within the project area and were selected by SunCable to avoid a major alluvial depression and cluster of ephemeral swamps which constitute obviously constrained land (due to periodic inundation). The AOI were also selected to minimise impacts to several important habitat types identified and mapped in the desktop ecology assessment completed by EcOz in October 2024, namely alluvial depressions, ephemeral swamps, isolated hills and laterite rises (in potential Bilby habitat), blacksoil plains and riparian vegetation.

The field survey verified that the following sensitive or significant vegetation types occur within the AOI: riparian vegetation along Burke Creek; ephemeral swamps of varying sizes are scattered throughout; and large, hollow-bearing trees, which are likely restricted to Burke Creek.

There are a number of threatening processes to biodiversity as a consequence of human presence in the region. The survey recorded localised occurrences of four weed species – two of which are declared weeds in the NT (Rubber Bush and Buffel Grass). As well as extensive cattle tracks to the east of the railway line, camel tracks were sparsely scattered throughout the AOI, and numerous Feral Cats were sighted. Apart from along Burke Creek, there is a low prevalence of erosion across the AOI. The project area has experienced a moderate fire frequency between 2000 and 2024, with the majority of the project area burnt five to seven times. Much of Muckaty ALT, and thus the AOI, was burnt in 2023 or 2024, leaving smaller disconnected patches that have remained unburnt for three or more years

Desktop research identified that the project area provides suitable habitat for three threatened species – Greater Bilby, Grey Falcon and Yellow-spotted Monitor. The field survey of the AOI confirmed presence of Greater Bilby, with the majority of records (including sign made within the last week) in the southern AOI, and a small number of records of old sign (estimated to be months to years old) in the northern AOI. Within the AOI, Greater Bilby are considered to have potential to occur within sandplains, laterite rises and lateritic plains; and to a lesser extent, loamy plains. Although these land types are considered as generally suitable habitat for Greater Bilby, there are 'hotspot areas' within those land types that are more favourable and more likely to support Greater Bilby (primarily due to the presence of shrub species which support root-dwelling larvae (RDL) – a key food source for the Greater Bilby). Within the AOI, there are large areas where RDL shrub species are absent or uncommon. It is considered unlikely that Greater Bilby will burrow or forage in these locations. The

Greater Bilby is considered unlikely to occur in the following land types due to soil type (i.e. poor burrowing suitability), cattle impacts, distinct lack of suitable food resources, and lack of confirmed bilby records: low rocky hills; alluvial plains and depressions; drainage lines (creeks and minor drainages); and ephemeral swamps.

The entire AOI is deemed suitable foraging habitat for the Grey Falcon and Burke Creek in the northern AOI provides potentially-suitable nesting habitat for this species. Potential sign of Yellow-spotted Monitor was observed in alluvial land types in the northern AOI and eastern portion of the southern AOI. Suitable habitat for this species may occur in other areas of the AOI.

The threatened species' survey effort undertaken for this survey is considered adequate to broadly characterise the species' occurrence and distribution across the AOI. However, once a preferred project footprint has been determined, additional survey effort – presence/absence and habitat quality – will likely be required to inform an assessment of potential impacts to Greater Bilby from the project. Land type mapping may also need to be refined within the selected footprint as per the NT Land Clearing Guidelines (DEPWS 2024b).

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1 INTRODUCTION

AAPowerLink Australia Assets Pty Ltd (SunCable) is proposing to develop the Muckaty Solar Project within the Barkly Region Local Government Area of the Northern Territory (NT). The project is proposed to be located on Muckaty Aboriginal Land Trust (ALT) approximately 855 km south of Darwin (by road).

EcOz Environmental Consultants (EcOz) was engaged by SunCable to prepare an Ecology Assessment report (this report) to identify terrestrial ecological values and constraints relevant to the project. The results will inform both project design and referral of the project under the NT *Environment Protection Act 2019* (EP Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

1.1 Study areas

The report considers three scales of study area. It starts with a desktop assessment that looks at the environment across all of Muckaty ALT (for context), before focussing on the Muckaty Solar *project area* (i.e. the area of land west of the Amadeus Gas Pipeline). Field surveys were further focussed on *areas of interest* (AOI) within that project area. These AOI were selected by SunCable to avoid obviously constrained land (due to periodic inundation and important habitats identified in the desktop assessments in October 2024). These nested study areas are depicted in Figure 1-1.

1.2 Scope

This report provides detail on the following aspects:

- Overview of the environmental context within the Muckaty ALT.
- Likelihood of occurrence assessment for NT-listed threatened species and Matters of National Environmental Significance (MNES) (i.e. Commonwealth-listed threatened and migratory species) that are known or likely to occur within the project area.
- Preliminary land type mapping within the AOI at a scale of 1:20,000.
- Ground-truth and assess the quality of significant vegetation (as per the NT *Land Clearing Guidelines* (DEPWS 2024b)) across the AOI.
- Targeted Greater Bilby survey across areas of suitable habitat within the AOI.
- Incidental weed records and general site conditions (erosion, fire and feral animal impacts) across the AOI.

1.3 Survey team

The field team consisted of two ecologists with expertise in arid zone flora and fauna – Tom Ewers-Reilly (team leader / ecologist) and Nerida Liddle (botanist / ecologist).

Tom has worked as an ecological consultant in Alice Springs and Darwin since 2002, leading numerous flora and fauna surveys (both general biodiversity and targeted threatened species surveys) and vegetation / habitat mapping surveys. In this time, he has gained specific expertise of the arid habitats within Central Australia. Tom has conducted numerous targeted Greater Bilby surveys within the Northern Territory, including aerial and ground-based surveys.

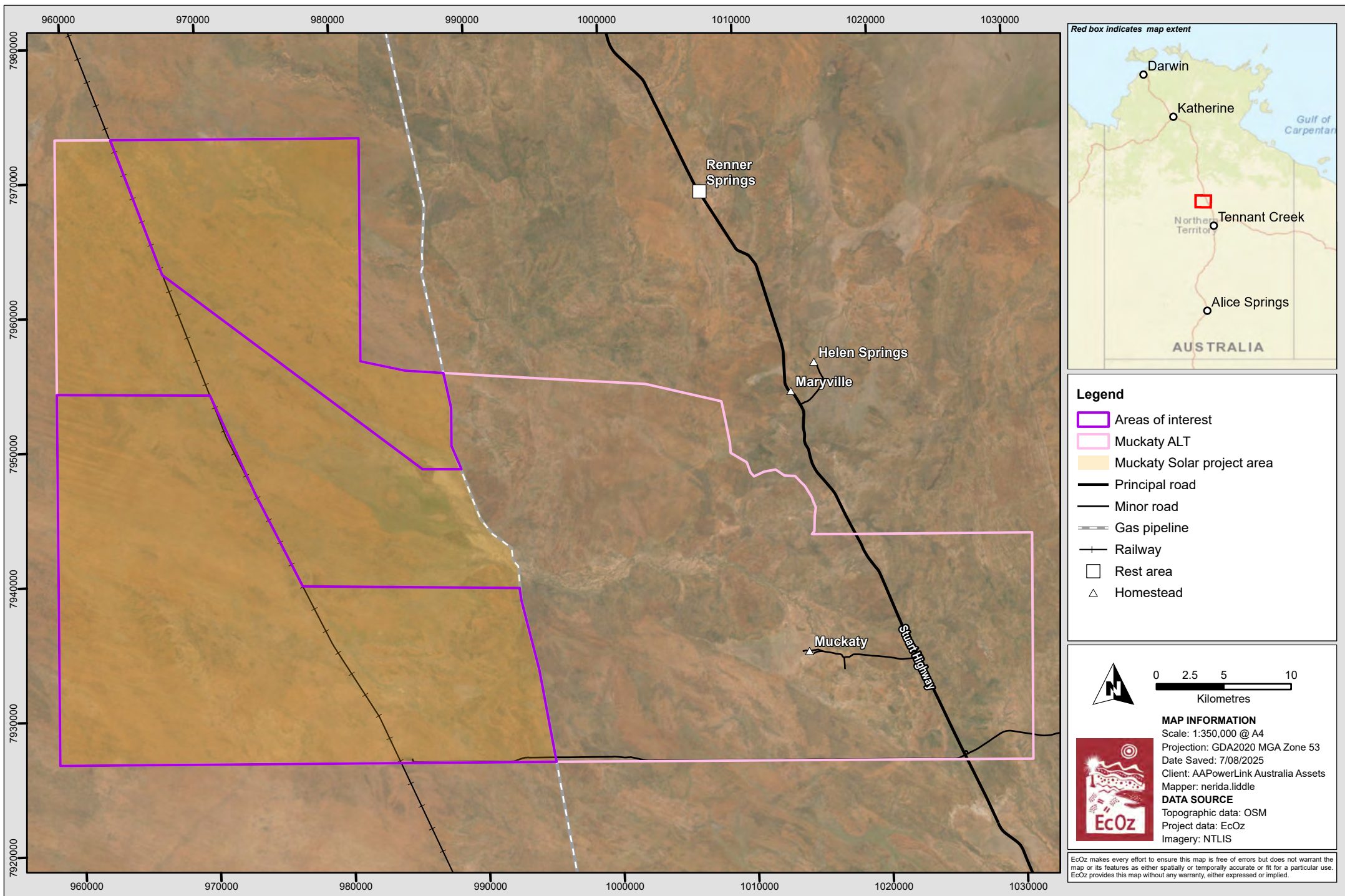
Nerida has over seven years of experience working in Alice Springs and Darwin in biodiversity and land management. In these years she has undertaken surveys of threatened flora and fauna, land management processes – including fire, feral animal and weed management – and mine site vegetation assessments. Nerida's experience working from Alice Springs in the field has allowed her to develop an understanding of ecological assessments for the Central Australian region.

1.4 Limitations

The following caveats apply to this report:

- Site observations described in this report are based on site conditions experienced at the time of survey, such as weather, site access, safety, vegetation and restricted works areas. Site conditions may change after the date of this report.
- EcOz has prepared this report based on information provided by the proponent and Government authorities (i.e. database searches). Data were not independently verified or checked beyond the agreed scope of work.
- The opinions and findings presented in this report are based on information obtained from specific site locations. Site conditions at other parts of the study areas may be different from site conditions found at selected site locations (sample locations were selected to represent the study areas based on the expertise and knowledge of the ecologists conducting the survey).

Despite these limitations, the data presented are representative and accurate, and at an appropriate scale for the scope of this assessment.



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 Layout: Figure 1-1. Map of project area

Figure 1-1. Map of project area

2 ENVIRONMENTAL CONTEXT

This section provides an overview of the existing environmental values within Muckaty ALT. This content is derived from NT Government datasets, previous proximate surveys and the authors' experience of the region. Ecological values and threatening processes that were surveyed – such as land types, significant vegetation and weeds – are detailed in separate sections further on in this report.

2.1 Climate

The closest long-term Bureau of Meteorology weather station is Elliott (station number 015131) approximately 50 km north of the project area. Based on data from the Elliott weather station, the region experiences an arid to semi-arid climate, which is characterised by hot dry summers and cool dry winters, with a low average annual rainfall. Temperatures align with the seasonal patterns typical of northern and central Australia, with the highest daily maximums occurring in January. Evapotranspiration rates are high, with annual evaporation far exceeding the total annual rainfall.

The average annual rainfall is 603.3 mm; with higher rainfall volumes typically occurring in the summer months associated with the northern monsoon – see Figure 2-1. However, annual rainfall in the region can be highly variable. For example, 2019 experienced 97.6 mm of rain, while 2020 experienced 797.9 mm of rain and 2024 experienced 1516.8 mm of rain – see Figure 2-2. Several years, including 2016–2019 and 2021–2023, experienced below-average rainfall.

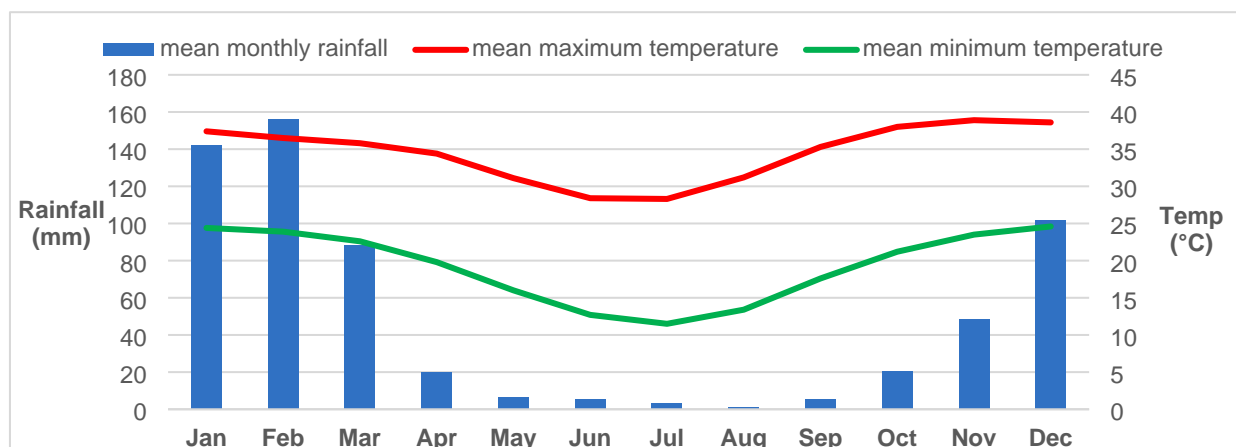


Figure 2-1. Long-term monthly rainfall and temperature statistics at Elliott (Station 015131)

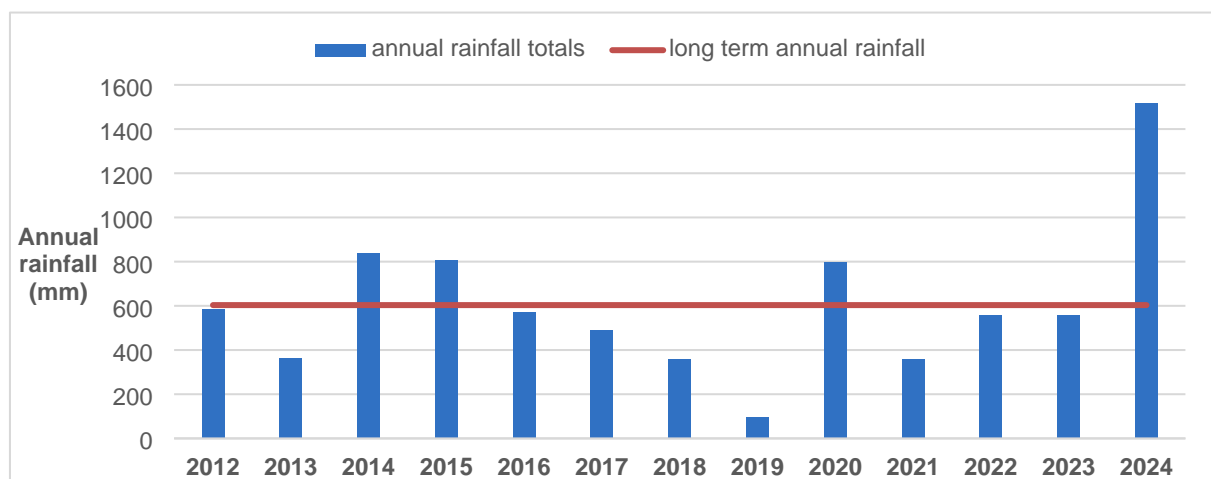


Figure 2-2. Annual rainfall at Elliott (Station 015131) between 2012 and 2024

2.2 Land use

Historically, Muckaty ALT was leased for pastoral use to various lessees between the 1930's and 1980's. In 1991, the Muckaty Aboriginal Corporation assumed control of the station, focusing on land rehabilitation efforts. Since 1997, Muckaty Station has been used for low-intensity cattle grazing activities (under lease agreement with the Traditional Owners).

Neighbouring properties include Powell Creek Station, Helen Springs Station, Banka Banka West Station and land held by the Karlantijpa North ALT.

The Adelaide-Darwin railway and the Amadeus Gas Pipeline cross through the western portion of Muckaty ALT and the Stuart Highway intersects the eastern corner of Muckaty ALT.

2.3 Bioregion

Bioregions are relatively large land areas characterised by broad, landscape-scale natural features and environmental processes that influence the functions of entire ecosystems. They capture the large-scale geophysical patterns across Australia. These patterns in the landscape are linked to fauna and flora assemblages and processes at the ecosystem scale. NT bioregions are described in Baker et al. (2005).

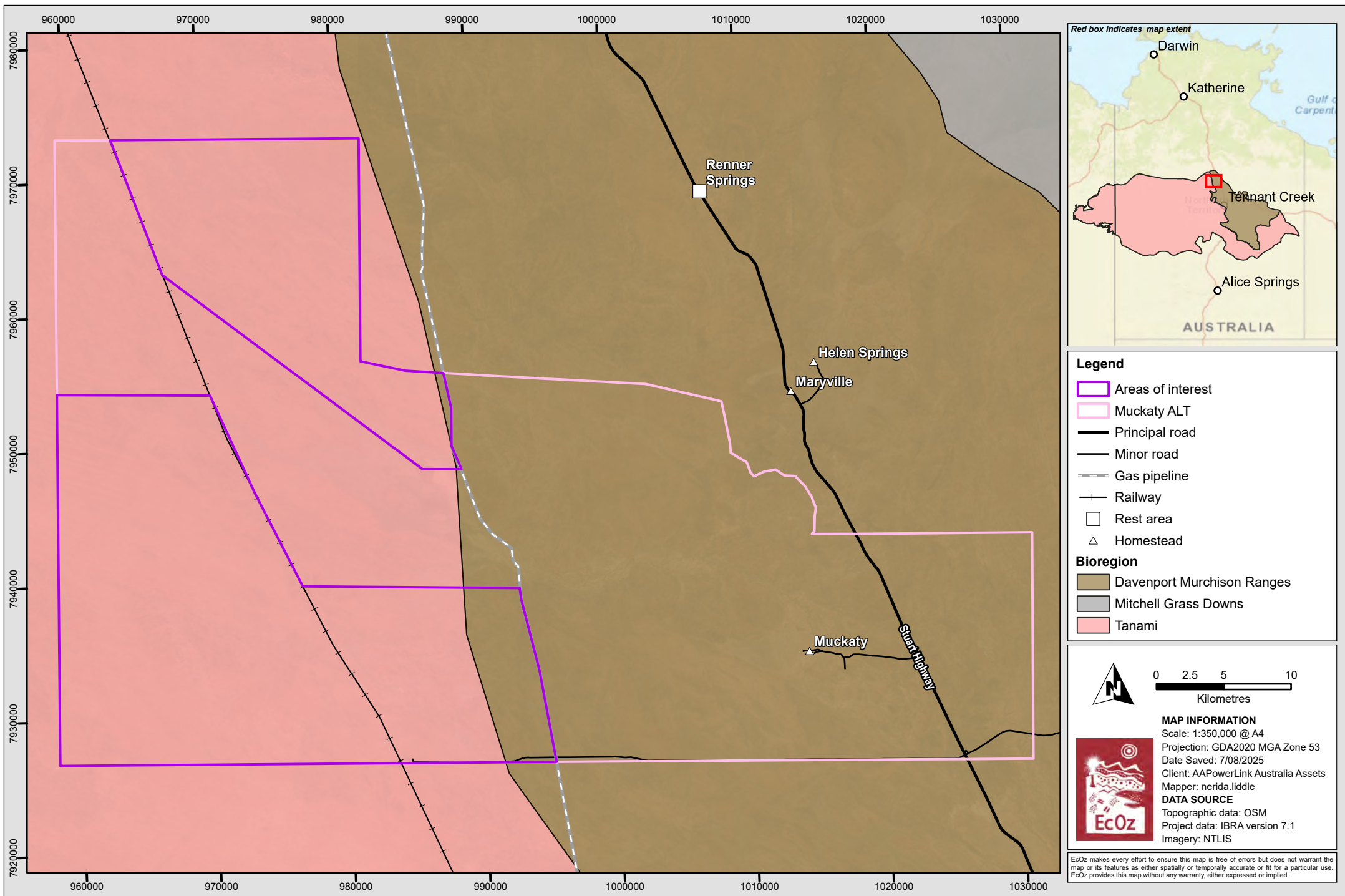
Muckaty ALT occurs within the Tanami and Davenport Murchison Ranges bioregions; however, the project area is almost wholly within the Tanami bioregion – see Figure 2-3.

The Muckaty ALT occurs on the eastern edge of the Tanami bioregion. This bioregion is characterised by red sandplains and low dune fields with underlying rock strata occasionally exposed as hills and ranges. The sandplains are vegetated with mixed shrubland of *Acacia*, *Eucalyptus* or *Hakea* over spinifex hummock grasslands. Alluvial and lacustrine calcareous deposits occur throughout, often associated with palaeo-drainage systems – which often hold high ecological significance (aerial imagery indicates that palaeo-drainage systems are not present within the Muckaty ALT). The bioregion is divided into three sub-regions – Tanami Desert, Wycliffe and Sandover. Muckaty ALT is located within the Wycliffe sub-region.

The Muckaty ALT occurs on the western edge of the Davenport Murchison Ranges bioregion. This bioregion is characterised by a chain of rocky ranges surrounded by lowland plains. Vegetation is typically comprised of low open *Eucalyptus* woodland and sparse *Acacia* shrubland over hummock grassland and low, rugged rocky hills with hummock grasslands and/or low open woodland dominated by *Acacia* species.

2.4 Conservation areas

There are no Sites of Conservations Significance (SOCS), Sites of Botanical Significance (SOBS), parks or reserves within, or adjacent to, Muckaty ALT.



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 Layout: Figure 2-3. Map of relevant bioregions

Figure 2-3. Map of relevant bioregions

2.5 Land systems

A land system is defined as ‘an area or group of areas throughout which there is a recurring pattern of topography, soils and vegetation’ (Christian and Stewart 1968). Land systems have been mapped across the NT by the government at scales between 1:250,000 and 1:1,000,000 (i.e. at smaller scale than a bioregion)

The land systems relevant to this project area are at a scale of 1:1,000,000 (DEPWS 2011, spatial dataset reference code is SOUTH_1M Version 1 minor edits October 2013. Compiled from Christian et al. 1951 and Stewart et al. 1970, the original surveys covering the project area). Land system mapping indicates that Muckaty ALT intersects seven land systems within the following land system classes: desert sandplains, dune fields, laterite plains and rises, sandstone plains and rises, sandstone hills and alluvial floodplains (described in Table 2-1; mapped in Figure 2-4).

The western part of Muckaty ALT is dominated by desert sandplains and dune fields, specifically the Redsan and Atlas_B32 land systems. These areas feature open *Eucalyptus* woodlands over hummock grass (Spinifex) and are found on level to undulating sandplains and dunes composed of red sands. Additionally, a smaller section in the southwestern corner of the ALT consists of sandstone hills with shallow, stony soils, classified as the Atlas_BV1 land system.

The central to eastern part of the Muckaty ALT constitutes a variety of land systems, including sandstone plains and rises (Helen Springs land system), sandstone hills (Ashburton land system), lateritic plains and rises (Elliot land system) and alluvial floodplains (Gosse land system).

2.6 Land types

A *land type* is a unit of land that incorporates ‘a reasonably homogenous part of a land surface, distinct from surrounding terrain with consistent properties in landform, soils or vegetation’ (Hooper 1970). Land types provide a finer level of detail than other types of regional mapping data – such as land systems and the National Vegetation Information System (NVIS) and land units (which are not available for this project area).

Land type mapping is available for the eastern portion of Muckaty ALT at a scale of 1:250,000 (Brocklehurst et al. *in preparation*; spatial dataset reference code is SHTLT_250 Version 3 March 2017). However, because the mapping only extends a small way into the areas of interest, it is not presented in this report.

Section 3 of this report presents preliminary land types for the AOI based on survey data.

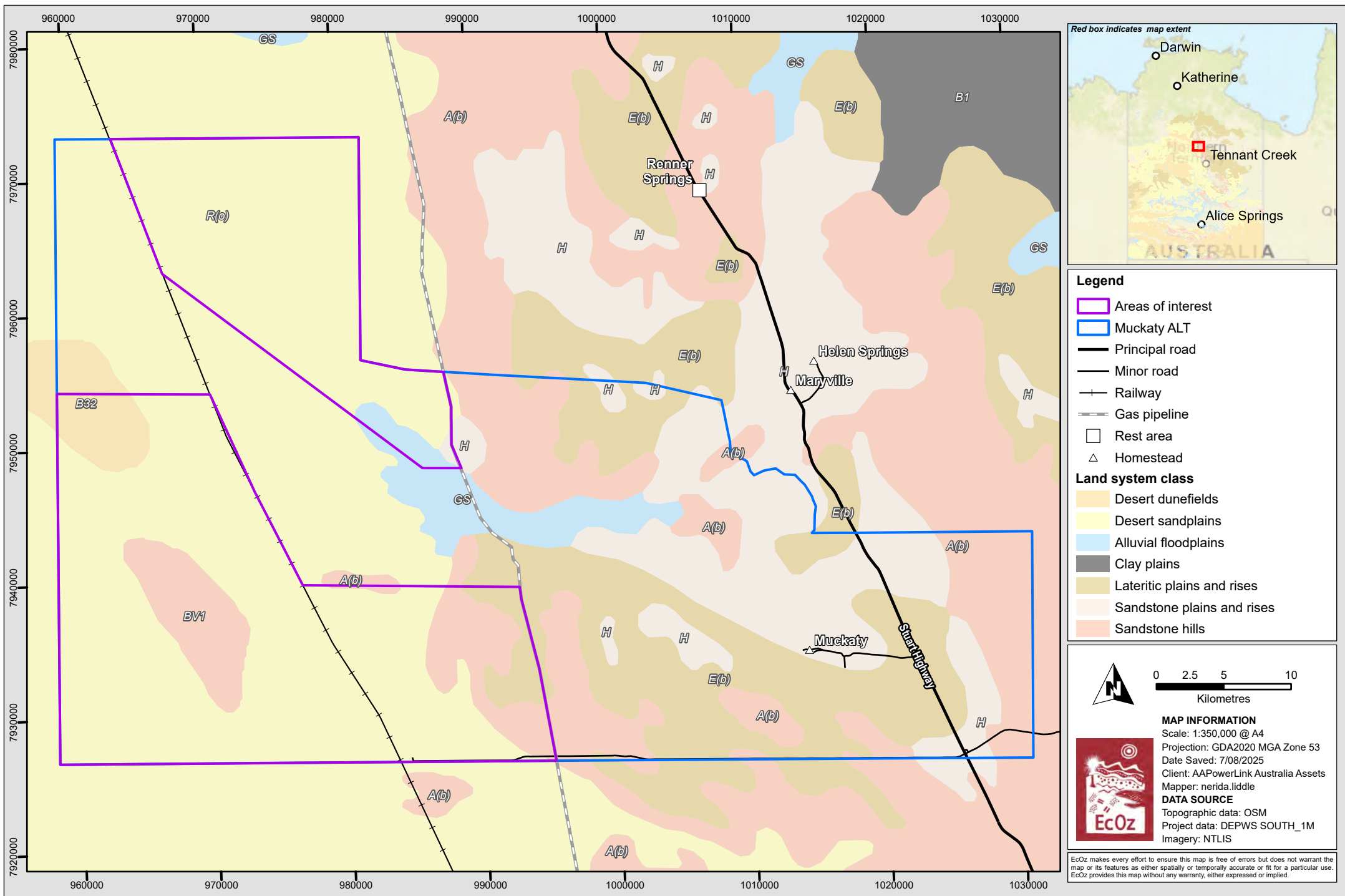
2.7 Vegetation communities

The National Vegetation Information System (NVIS 2007) is a framework used to classify, map, and describe vegetation types across Australia. NVIS organises vegetation data into hierarchical levels, ranging from broad national categories to highly specific descriptions of plant communities, landforms, and soils. These levels capture dominant species, the community structure and soil types.

NVIS mapping indicates that the Muckaty ALT intersects eight NVIS vegetation units (334, 352, 418, 428, 440, 1032, 1042, 1021) and four broad (NVIS level 2) vegetation types (open hummock grassland, tussock grassland, open woodland, and woodland). These are mapped in Figure 2-5, with those occurring within the AOI described in Table 2-2.

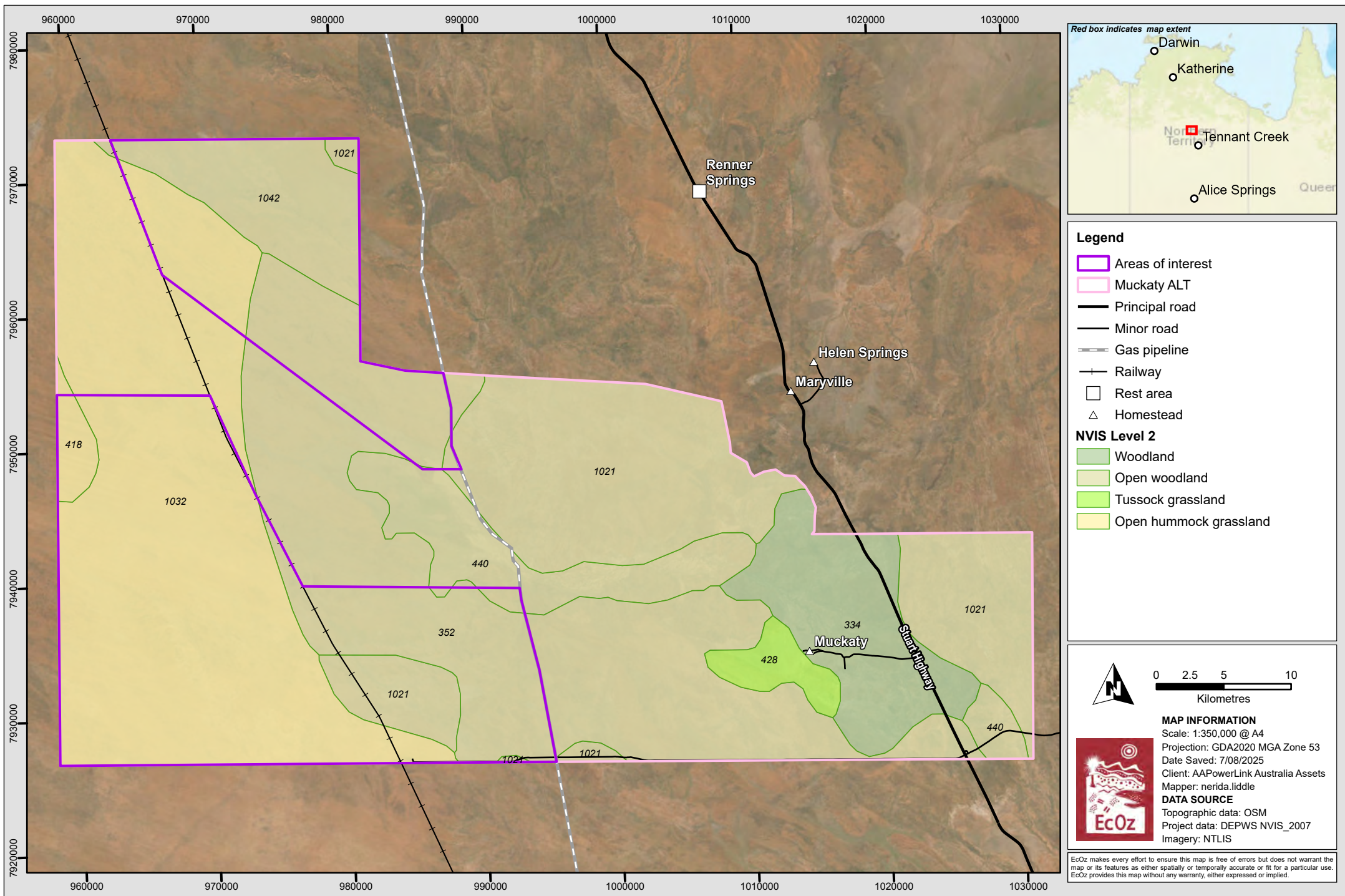
Table 2-1. Summary of land systems in Muckaty ALT

Land system code	Land system	Landform	Soil	Vegetation
Sandstone hills				
A(b)	Ashburton	Low hills, hills and stony plateaux on sandstone, siltstone, quartzite and conglomerate (deeply weathered in places)	Outcrop with shallow stony soils	Shrubby woodland of <i>Ventilago viminalis</i> , <i>E. pruinosa</i> or <i>Jacksonia odontoclada</i> and <i>Acacia spp.</i> Scrub (Christian et al. 1954).
BV1	Atlas_BV1	Low hills, hills and stony plateaux on sandstone, siltstone, quartzite and conglomerate (deeply weathered in places)	Outcrop with shallow stony soils	No vegetation data available for this land system because data is from Soil Atlas report.
Sandstone plains and rises				
H	Helen Springs	Plains, rises and plateaux on mostly on sandstone, siltstone, claystone, shale and some limestone	Commonly shallow soils with surface stone and rock outcrop	Woodland including <i>E. brevifolia</i> and <i>Terminalia grandiflora</i> over <i>Astrelba pectinata</i> grassland (Christian et al. 1954).
Desert sandplains and dune fields				
B32	Atlas B32	Dune fields with parallel linear dunes, reticulate dunes and irregular or aligned short dunes; red sands	Red sands	No vegetation data available for this land system because data is from Soil Atlas report.
R(o)	Redsan	Level to undulating sandplains with red sands	Red sands	Open Eucalyptus woodland (including (<i>Eucalyptus polycarpa</i> , <i>E. argillacea</i> , <i>E. setosa</i> , <i>E. pruinosa</i> , <i>E. microtheca</i> , <i>E. ferruginea</i>) over spinifex (mainly <i>Triodia pungens</i>) interspersed with areas of tussock grasses (i.e. <i>Aristida spp.</i>) (Stewart et al. 1970).
Lateritic plains and rises				
E(b)	Elliott	Plains and rises associated with deeply weathered profiles (laterite) including sand sheets and other depositional products	Sandy and earth soils	Woodland consisting of <i>Bauhinia cunninghamii</i> or scrubby woodland of <i>Jacksonia odontoclada</i> and <i>Acacia spp.</i>
Alluvial floodplains				
GS	Gosse	Alluvial floodplains, swamps, drainage depressions and alluvial fans	Sandy, silty and clay soils on quaternary alluvium.	Woodland including <i>Corymbia dichromophloia</i> over shrub woodland of <i>E. pruinosa</i> , <i>E. argillacea</i> , <i>E. terminalia</i> (Christian et al. 1954).



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 Layout: Figure 2-4. Map of land systems within and surrounding Muckaty ALT

Figure 2-4. Map of land systems within and surrounding Muckaty ALT



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Layout: Figure 2-5. Map of National Vegetation Information System (NVIS) in Muckaty ALT

Figure 2-5. Map of National Vegetation Information System (NVIS) in Muckaty ALT

Table 2-2. Summary of National Vegetation Information System (NVIS) in the AOI

NVIS ID	Level 2	Level 4	Community	Environs
1032	Open hummock grassland	Eucalyptus low isolated trees / Acacia tall sparse shrubland / Triodia low open hummock grassland	Upper <i>Eucalyptus pruinosa</i> , <i>Corymbia opaca</i> +/- <i>Eucalyptus setosa</i> Mid <i>Acacia stipuligera</i> +/- <i>Grevillea wickhamii</i> Ground <i>Triodia pungens</i> , <i>Triodia schinzii</i> +/- <i>Yakirra australiensis</i>	Red siliceous sandy soils
418		Eucalyptus low open woodland / Acacia mid sparse shrubland / Triodia low open hummock grassland	Upper <i>Eucalyptus setosa</i> , <i>Acacia torulosa</i> +/- <i>Corymbia deserticola</i> subsp. <i>mesogeotica</i> Mid <i>Eucalyptus setosa</i> , <i>Acacia stipuligera</i> , <i>Brachychiton paradoxus</i> Ground <i>Triodia pungens</i> , <i>Triodia schinzii</i> , <i>Eragrostis eriopoda</i>	Sand dunes
1021	Open woodland	<i>Corymbia</i> low open woodland / Acacia tall sparse shrubland / Triodia low hummock grassland	Upper <i>Corymbia dichromophloia</i> +/- <i>Hakea chordophylla</i> , <i>Eucalyptus odontocarpa</i> Mid <i>Acacia lycopodiifolia</i> , <i>Acacia coriacea</i> , <i>Acacia dictyophleba</i> Ground <i>Triodia pungens</i> +/- <i>Setaria apiculata</i> +/- <i>Digitaria brownii</i>	Shallow gravelly sands
352		<i>Corymbia</i> low open woodland / Acacia mid open shrubland / Triodia low hummock grassland	Upper <i>Corymbia opaca</i> , <i>Eucalyptus pruinosa</i> , <i>Corymbia papuana</i> Mid <i>Carissa lanceolata</i> , <i>Atalaya hemiglauca</i> , <i>Acacia lysiphloia</i> Ground <i>Triodia pungens</i> , <i>Eulalia aurea</i> , <i>Enneapogon polyphyllus</i>	Gently undulating peneplain, lateritic red earths
440		Eucalyptus low open woodland / Acacia mid open shrubland / Chrysopogon low open tussock grassland	Upper <i>Eucalyptus microtheca</i> , <i>Acacia coriacea</i> , <i>Corymbia opaca</i> Mid <i>Carissa lanceolata</i> , <i>Acacia holosericea</i> +/- <i>Gossypium australe</i> Ground <i>Chrysopogon fallax</i> , <i>Triodia pungens</i> , <i>Eragrostis eriopoda</i>	Periodically-flooded drainage lines to basins, deep alluvial soils to red earths and clays
1042		Eucalyptus low open woodland / Acacia mid open shrubland / Triodia low hummock grassland	Upper <i>Lysiphyllum cunninghamii</i> , <i>Corymbia opaca</i> , <i>Eucalyptus pruinosa</i> Mid <i>Carissa lanceolata</i> , <i>Acacia lysiphloia</i> , <i>Atalaya hemiglauca</i> Ground <i>Triodia pungens</i> , <i>Chrysopogon fallax</i> , <i>Enneapogon polyphyllus</i>	Gentle undulating plains, deep sandy yellow earths, lateritic red earths, or deep sands

2.8 Threatened species

The International Union for the Conservation of Nature (IUCN) nominates a set of criteria used to identify species at risk of extinction. These criteria are used to define categories of which are used by the NT Government to determine which threatened species are listed under the *Territory Parks and Wildlife Conservation Act (TPWC Act)*, and by the Commonwealth Government to determine which threatened species are listed under the *EPBC Act*.

This section of the report outlines the procedure and results of the desktop threatened species 'likelihood of occurrence' assessment conducted for this report for the solar project area (i.e. the portion of Muckaty ALT to the west of the Amadeus pipeline). The assessment was undertaken using available desktop information, as well as databases of existing records and potential species. The purpose of this assessment is to identify threatened species that may need to be targeted in a survey – or otherwise considered in further detail – because they have a reasonable likelihood of occurring within the project area, and those that can be reasonably excluded from further consideration because they are unlikely to occur within the project area.

2.8.1 Assessment procedure

The desktop threatened species 'likelihood of occurrence' assessment uses a broad-scale approach to ensure that all relevant species are properly interrogated. The following procedure was used to undertake the likelihood of occurrence assessment for each relevant threatened species:

1. Threatened and migratory species records from the latest version of the [NT Atlas](#) were clipped to within 250 km of the project area.
2. [EPBC Protected Matters Search Tool](#) (PMST) was used to generate a report of Commonwealth-listed threatened and migratory species using a 50 km buffer from the project area (which is the maximum buffer distance available on the PMST). The PMST is an online enquiry tool managed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) which interrogates a range of existing flora and fauna data, as well as predictive modelling to speculate on the presence of species within a search area. The PMST report was initially generated on 19 September 2024, with a new version generated on 24 June 2025 to check for updates (Appendix A) – no new species were identified in the updated PMST.
3. The results of NT Atlas and PMST were combined to generate a list of significant species that may occur within the area intersected by the project area.
4. For each species, the likelihood of it occurring within the project area was then assessed based on desktop information that relates to habitat requirements, distribution, number and dates of proximate records (obtained from NT Atlas and/or [Atlas of Living Australia](#)), and the environmental context described in Section 2. Likelihood ratings are defined in Table 2-3.

The assessment assumes that habitat which supports which supports threatened migratory shorebirds only occurs within project area on rare occasions (i.e. during extraordinary rainfall events), and hence the likelihood of those species being present is low.

Table 2-3. Ratings for the desktop threatened species likelihood of occurrence assessment

Rating	Definition
HIGH	It is expected that this species occurs within the project area because there is core habitat and recent (post-2000) proximate records or knowledge that the species occurs in the local area.
MODERATE	Species may occur within the project area because there is suitable habitat; however, there is evidence that lowers its likelihood of occurrence (for example, known range contraction of the species in the region, no recent records within or close to the project area, substantial loss of habitat since previous records, species is naturally-rare or occurs at a low density etc.).

LOW	Species may occur, as a vagrant, within the project area; only marginally-suitable habitat is expected.
NONE	There is strong / definitive evidence that this species will not occur within the project area.

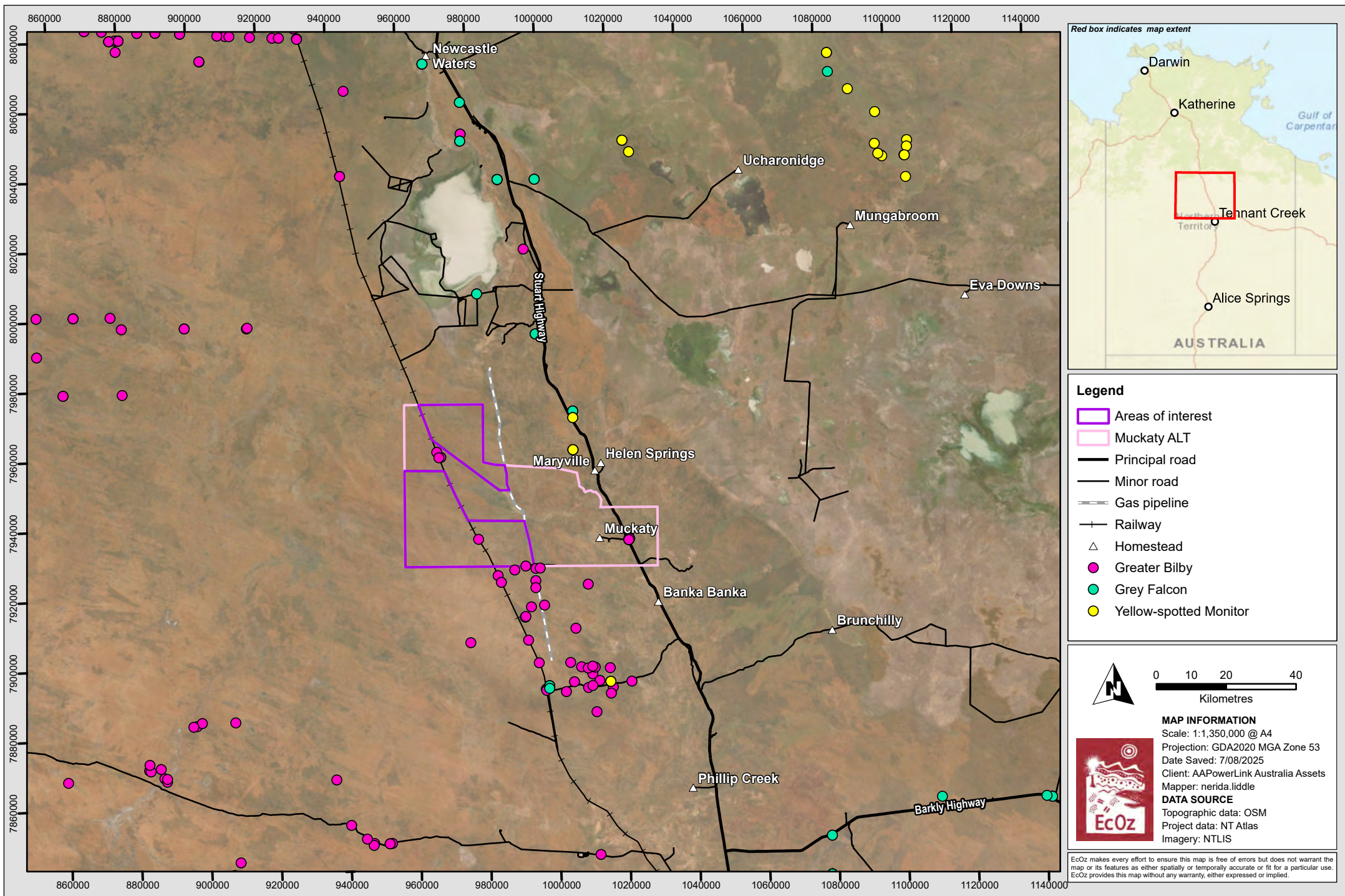
2.8.2 Desktop likelihood of occurrence results

A total of 31 threatened species were considered in the desktop 'likelihood of occurrence' assessment. The results from the threatened species 'likelihood of occurrence' assessment are summarised in Table 2-4 (detailed assessment provided in Appendix B).

Three species are considered to have a reasonable chance of occurring within the project area because they were assessed to either have a high or moderate likelihood of occurrence rating – Greater Bilby, Grey Falcon and Yellow-spotted Monitor (records within the region of the project area are shown in Figure 2-6). These species were the subject of the field surveys and assessment detailed in Section 4. Twelve species were assessed to have a low likelihood of occurrence within the project area, and 16 species were assessed as 'none'. These (28) species do not require any further assessment.

Table 2-4. Desktop threatened species 'likelihood of occurrence' assessment summary

Likelihood	Group	Species	Status	
			EPBC	TPWC
HIGH	MAMMAL	Greater Bilby (<i>Macrotis lagotis</i>)	VU	VU
MODERATE	BIRD	Grey Falcon (<i>Falco hypoleucos</i>)	VU	VU
	REPTILE	Yellow-spotted Monitor (<i>Varanus panoptes</i>)	-	VU
LOW	BIRD	Red Goshawk (<i>Erythrotriorchis radiatus</i>)	EN	VU
		Painted Honeyeater (<i>Grantiella picta</i>)	VU	VU
		Night Parrot (<i>Pezoporus occidentalis</i>)	EN	EN
		Princess Parrot (<i>Polytelis alexandrae</i>)	VU	VU
		Sharp-tailed Sandpiper (<i>Calidris acuminata</i>)	VU	LC
		Black-tailed Godwit (<i>Limosa limosa</i>)	EN*	NT
		Common Greenshank (<i>Tringa nebularia</i>)	EN*	LC
		Curlew Sandpiper (<i>Calidris ferruginea</i>)	CR*	CR
		Greater Sand Plover (<i>Charadrius leschenaultia</i>)	VU*	VU
		Australian Painted Snipe (<i>Rostratula australis</i>)	EN	EN
	REPTILE	Northern Blue-tongued Skink (<i>Tiliqua scincoides intermedia</i>)	CR	DD
	PLANT	Tassel Sedge (<i>Carex fascicularis</i>)	-	VU
NONE	MAMMAL	Bare-rumped Sheath-tailed Bat (<i>Saccolaimus saccolaimus nudicluniatus</i>)	VU	NT
		Northern Quoll (<i>Dasyurus hallucatus</i>)	EN	CR
		Golden-backed Tree-rat (<i>Mesembriomys macrurus</i>)	-	CR
		Central Australian Rock-wallaby (<i>Petrogale lateralis centralis</i>)	VU	NT
		Northern Brush-tailed Phascogale (<i>Phascogale pirata</i>)	VU	EN
		Pale Field-rat (<i>Rattus tunneyi</i>)	-	VU
		Northern Brushtail Possum (<i>Trichosurus vulpecula arnhemensis</i>)	VU	NT
		Common Brushtail Possum (Central) (<i>Trichosurus vulpecula vulpecula</i>)	-	EN
		Ghost Bat (<i>Macroderma gigas</i>)	VU	NT
		† Golden Bandicoot (<i>Isoodon auratus</i>)	EN	VU
	BIRD	Gouldian Finch (<i>Erythrura gouldiae</i>)	EN	VU
		Crested Shrike-tit (northern subspecies) (<i>Falcunculus frontatus whitei</i>)	VU	NT
		Partridge Pigeon (eastern subspecies) (<i>Geophaps smithii smithii</i>)	VU	VU
		Purple-crowned Fairywren (western) (<i>Malurus coronatus coronatus</i>)	EN	VU
		Masked Owl (northern subspecies) (<i>Tyto novaehollandiae Kimberli</i>)	VU	VU
		REPTILE	Plains Death Adder (<i>Acanthophis hawkei</i>)	VU



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2025\EZ25036 - Ecological surveys - Muckaty ALT\1. Project Files\2. Report Maps\EZ25036_NL_250613\EZ25036_NL_250613.aprx
 Layout: Figure 2-6. Map of NT Atlas records of Greater Bilby, Grey Falcon and Yellow-spotted Monitor

Figure 2-6. Map of NT Atlas records of Greater Bilby, Grey Falcon and Yellow-spotted Monitor

2.9 Migratory species

Australia is a signatory to the following international agreements relating to migratory birds, which provide a basis for cooperation on activities for the conservation of migratory birds that move between countries. The *EPBC Act* is the key mechanism for meeting Australia's obligations and responsibilities under multiple international agreements. Species listed on the annexes to these agreements are MNES under the *EPBC Act*.

- The Convention on Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention)
- Bilateral agreements for the conservation of migratory birds between the Government of Australia and the Government of Japan (JAMBA), the Government of China (CAMBA) and the Government of the Republic of Korea (ROKAMBA)
- The Convention on Wetlands of International Importance (also known as the Ramsar Convention).

There are 37 species of migratory shorebird that visit Australia on a regular and predictable basis. Satellite and geo-tracker telemetry data from species which have been studied using such technology demonstrate that most of these species pass through (or over) central Australian regions on route to their breeding grounds in the northern hemisphere. However, there is a paucity of records of migratory shorebirds 'on the ground' in central Australia. Most records of migratory shorebirds relevant to the project area are based in, and around, Lake Woods (approximately 35 km to the north of Muckaty ALT), although there are several others from floodplain wetlands east of the project area.

There are 19 listed migratory shorebird species identified by the NT Fauna Atlas clip (250 km) and the EPBC PMST Search (see Appendix A) that are either known, or are likely, to occur at nearby Lake Woods (and therefore potentially within the project area).

A likelihood of occurrence of migratory birds within the project area has been undertaken using the same process as presented in Section 2.8.1. The listed migratory birds (that are not also listed as threatened) that could be present are shown in Table 2-5. The table also includes any species that were included in the Protected Matters Search report (Appendix A). The likelihood of occurrence assessment applies the same assumptions that were applied to the threatened species' likelihood of occurrence assessment – as presented in Section 2.8.2 – namely that habitat which supports migratory wetland birds and shorebirds only occurs within project area on rare occasions (i.e. during extraordinary rainfall events), and hence the likelihood of those species being present is low.

The assessment concluded that there are no listed migratory birds that are considered likely to occur within the project area.

Table 2-5. Migratory species relevant to the project area

Species also listed as threatened are excluded

Species	Comment	Highest count at Lake Woods*	Likelihood
Barn Swallow (<i>Hirundo rustica</i>)	Annual non-breeding visitor to northern Australia, generally in small numbers. No records from the region.	-	NONE
Caspian Tern (<i>Hydroprogne caspia</i>)	Common visitor to waterbodies.	25	LOW
Common Sandpiper (<i>Actitis hypoleucos</i>)	Annual non-breeding migrant to coastal habitats and inland wetlands; rarely found in groups.	1	LOW
Fork-tailed Swift (<i>Apus pacificus</i>)	Non-breeding visitor recorded throughout Australia. Highly mobile, aerial feeder.	8	LOW

Species	Comment	Highest count at Lake Woods*	Likelihood
Garganey (<i>Spatula querquedula</i>)	Rare non-breeding vagrant to Australia. Highly mobile, aerial feeder.	1	NONE
Glossy Ibis (<i>Plegadis falcinellus</i>)	Cosmopolitan, commonly occur on a variety of habitat types including flooded pastures, dam edges, mudflats and open wetlands.	3,000	LOW
Grey Wagtail (<i>Motacilla cinerea</i>)	Annual non-breeding visitor to northern Australia, generally in small numbers. No records from the region.	-	NONE
Little Curlew (<i>Numenius minutus</i>)	Annual non-breeding migrant to northern Australia, feeding in short, dry grassland, including dry floodplains and blacksoil plains, which have scattered, shallow freshwater pools or areas seasonally-inundated.	628	LOW
Marsh Sandpiper (<i>Tringa stagnatilis</i>)	Annual non-breeding migrant to coastal habitats and inland wetlands.	40	LOW
Oriental Plover (<i>Charadrius veredus</i>)	Annual non-breeding migrant usually inhabiting flat, open, grasslands, where short grass is interspersed with hard, bare ground.	103	LOW
Oriental Pratincole (<i>Glareola maldivarum</i>)	Annual non-breeding migrant, usually inhabiting open plains, floodplains or short grassland, often with extensive bare areas and near inland water.	5,000	LOW
Pectoral Sandpiper (<i>Calidris melanotos</i>)	Annual non-breeding migrant; uncommon, preferring freshwater wetlands.	1	LOW
Red-necked Stint (<i>Calidris ruficollis</i>)	Annual non-breeding migrant using coastal habitat and inland wetlands.	3	LOW
Swinhoe's Snipe (<i>Gallinago megala</i>)	Annual non-breeding migrant preferring grassy margins of wetlands.	25	LOW
White-winged Black Tern (<i>Chlidonias leucopterus</i>)	Common visitor to waterbodies.	4	LOW
Wood Sandpiper (<i>Tringa glareola</i>)	Annual non-breeding migrant to well-vegetated, shallow, freshwater wetlands.	20	LOW
Yellow Wagtail (<i>Motacilla flava</i>)	Annual non-breeding visitor to northern Australia, generally in small numbers. No records from the region.	-	NONE

* Highest count at Lake Woods is based on bird studies conducted in 1993/94 (Jaensch 1993; 1994)

2.10 Near Threatened and Data Deficient species

Near Threatened species and Data Deficient species can be considered significant species; however, they are only typically included in risk assessments for project approvals if they have a restricted range (because species with restricted ranges have the potential to be significantly impacted if a project footprint overlaps a population or occurrence).

NT Atlas records indicate there are 13 Near Threatened fauna species, 4 Near Threatened flora species and 7 Data Deficient flora species within 5 km of the project area (see Table 2-6). There are no Data Deficient fauna species within the search area. None of the species are considered to have restricted ranges; and subsequently, the project is inherently unlikely to have significant impact on Near Threatened species and Data Deficient if they indeed occur within the project area. Consequently, no targeted surveys are warranted.

Table 2-6. Near Threatened and Data Deficient species recorded within 5 km of the project area

Group	Common name	Scientific name
Near Threatened species		
Bird	Australian Bustard	<i>Ardeotis australis</i>
	Emu	<i>Dromaius novaehollandiae</i>
	Pictorella Mannikin	<i>Heteromunia pectoralis</i>
	Square-tailed Kite	<i>Lophoictinia isura</i>
	White-lined Honeyeater	<i>Microptilotis albilineata</i>
	Flock Bronzewing	<i>Phaps histrionica</i>
Mammal	Spectacled Hare-wallaby	<i>Lagorchestes conspicillatus</i>
	Northern Nailtail Wallaby	<i>Onychogalea unguifera</i>
	Central Pebble-mouse	<i>Pseudomys johnsoni</i>
	Western Chestnut Mouse	<i>Pseudomys nanus</i>
Reptile	Woma	<i>Aspidites ramsayi</i>
	Mulga Snake	<i>Pseudechis australis</i>
Plant	Bergia	<i>Bergia barklyana</i>
	Ipomoea	<i>Ipomoea argillicola</i>
	Star Pigweed	<i>Trianthema oxycalyptra</i> var. <i>oxycalyptra</i>
	Rhamphicarpa	<i>Rhamphicarpa australiensis</i>
Data Deficient species		
Plant	Sandhill Grey-vine	<i>Bonamia linearis</i>
	Cullen	<i>Cullen corallum</i>
	Drosera	<i>Drosera finlaysoniana</i>
	Fringe-Rush	<i>Fimbristylis corynocarya</i>
	Heliotropium	<i>Heliotropium fasciculatum</i>
	Sida	<i>Sida</i> sp. <i>excedentifolia</i>
	Phyllanthus	<i>Phyllanthus</i> sp. <i>narrow tuberculate seeds</i>

3 PRELIMINARY LAND TYPE SURVEY

This section describes preliminary land type mapping undertaken for the AOI. A *land type* is a mapping unit that categorises areas of similar landform, vegetation and soil typically at finer scales than other mapping units, such as land systems or NVIS vegetation units.

The main purpose of this preliminary mapping survey is to identify potential habitat for threatened and migratory species within the AOI; and to ascertain if any sensitive vegetation types are present. The results from this survey can be used to identify areas considered to potentially have higher ecological significance. Once the solar precinct footprint has been selected, a detailed land type mapping survey will likely be required as per the NT Land Clearing Guidelines (DEPWS 2024).

Preliminary land type mapping was undertaken within the AOI at a nominal scale of 1:20,000. This scale was considered appropriate to delineate the landforms, vegetation types and vegetation structures for the purpose of this assessment.

3.1 Methodology

Prior to field work, aerial imagery and desktop review information were used to delineate land type boundaries (ESRI polygon shapefile) within the AOI at a scale of approximately 1:20,000. Land type polygons aimed to separate areas of different landform, soil and vegetation characteristics. It is noted that the AOI has been exposed to numerous fire events over the past two decades (see Section 5.3), so vegetation patterns observed on aerial imagery often represent fire scars rather than different land types or vegetation type. The resultant polygons were uploaded to AVENZA Maps[®] and ESRI Fieldmaps[®] to locate and validate land type boundaries whilst in the field. Land type boundaries were ground-truthed by collecting site data at representative locations.

Data collection included general descriptions of landform, surface soil, slope, vegetation structure and dominant flora species from a combination of aerial observations (helicopter) and ground-based check sites (via helicopter landings or vehicle access).

Site locations were selected to be spatially representative of land types within the AOI. Locations were recorded by taking GPS waypoint or equivalent (projection / datum GCS GDA2020). Site data and other field observations were used to revise the land type boundaries and create preliminary descriptions. It is noted that reference sites and soil profile description were not undertaken for this assessment; these will be undertaken – as per requirements under the Land Clearing Guidelines (DEPWS 2024) – once the proponent has selected the proposed location of the solar farm (i.e. project footprint).

3.2 Land types

Preliminary land type data was collected at 41 ground-based check sites and 437 aerial observation sites (mapped in Figure 3-1; site data are provided in Appendix C). Nine land types were described within the AOI (mapped in Figure 3-2; summarised in Table 3-1; representative photographs provided in Appendix D).

Spinifex sandplains is the most common land type within the AOI. This land type has flat to gentle slopes and orange sandy to sandy loam soils. Hummock (spinifex) grassland consistently occurs within this land type; however, there are several floristic variations within the mid and upper layers, with no or sparse shrubs and trees in some areas, and other areas supporting a shrubland with scattered to open trees. Floristic variations are likely influenced by soil type, fire history and proximity to rocky hills and drainage/alluvial areas. The dominant hummock grass species is *Triodia pungens*, with some tussock grasses also commonly observed at lower densities (such as *Aristida holathera* and *Eriachne obtusa*). Shrub species commonly observed included species include *Acacia lysiphloia*, *Acacia torulosa*, *Acacia stipuligera*, *Croton aridus* and *Petalostigma nummularia/pubescens*. The *Acacia* species were present as patches in some areas. Trees were generally scattered to isolated, with the most common species including *Corymbia opaca* and *Corymbia setosa*.

Loamy plains are also relatively common within the AOI and tend to occur in outflow areas of waterways present to the east (Burke Creek and Tomkinson Creek). Terrain is generally flat to gentle slopes. This land type predominately has a tussock grass understory (mainly *Chrysopogon spp.* and *Aristida spp.*); however, there are also patches of hummock (spinifex) grass (*Triodia pungens*) where soils become sandier (these patches are generally equivalent to spinifex sandplains land type). There are several floristic variations within the loamy plains, ranging from tussock grasslands to open shrublands and open low woodlands (refer to Table 3-1). Areas with notably low shrub and tree cover are depicted in Figure 3-2. Tree species present within this land type tend to prefer slighter wetter soil conditions (particularly *Corymbia flavescens*, *Eucalyptus pruinosa*, *Hakea arborescens*, *Lysiphyllum cunninghamii*), which may indicate a clayey sub surface soils layer. Cattle tracks and grazing was commonly observed in this land type due to a higher abundance of palatable grasses and proximity to water sources.

Lateritic plains were only observed in the south-eastern corner of the AOI, associated with the foot slopes of the Ashburton Range situated to the east. Terrain was generally flat to undulating in between several rocky rises and low hills (described as separate land types). Soil surface was a mix of lateritic sand and gravel. Vegetation was relatively open low trees and shrubs with a mix of hummock grass and tussock grass understory. Tree species present indicated likely presence of shallow rock (particularly *Corymbia dichromophloia* and *Eucalyptus leucophloia*) – most trees have been subject to repeat fires and are therefore stunted and/or have mallee-like formations.

Laterite rises have a scattered occurrence in the southern part of the AOI. They have a gravelly surface and gentle slopes. No outcropping was observed. Vegetation mainly comprised of a low shrubland to low open shrubland of *Acacia hilliiana* over hummock grass (*Triodia sp.*); with some rises also including *Acacia monticola* and/or *Acacia lysiphloia*.

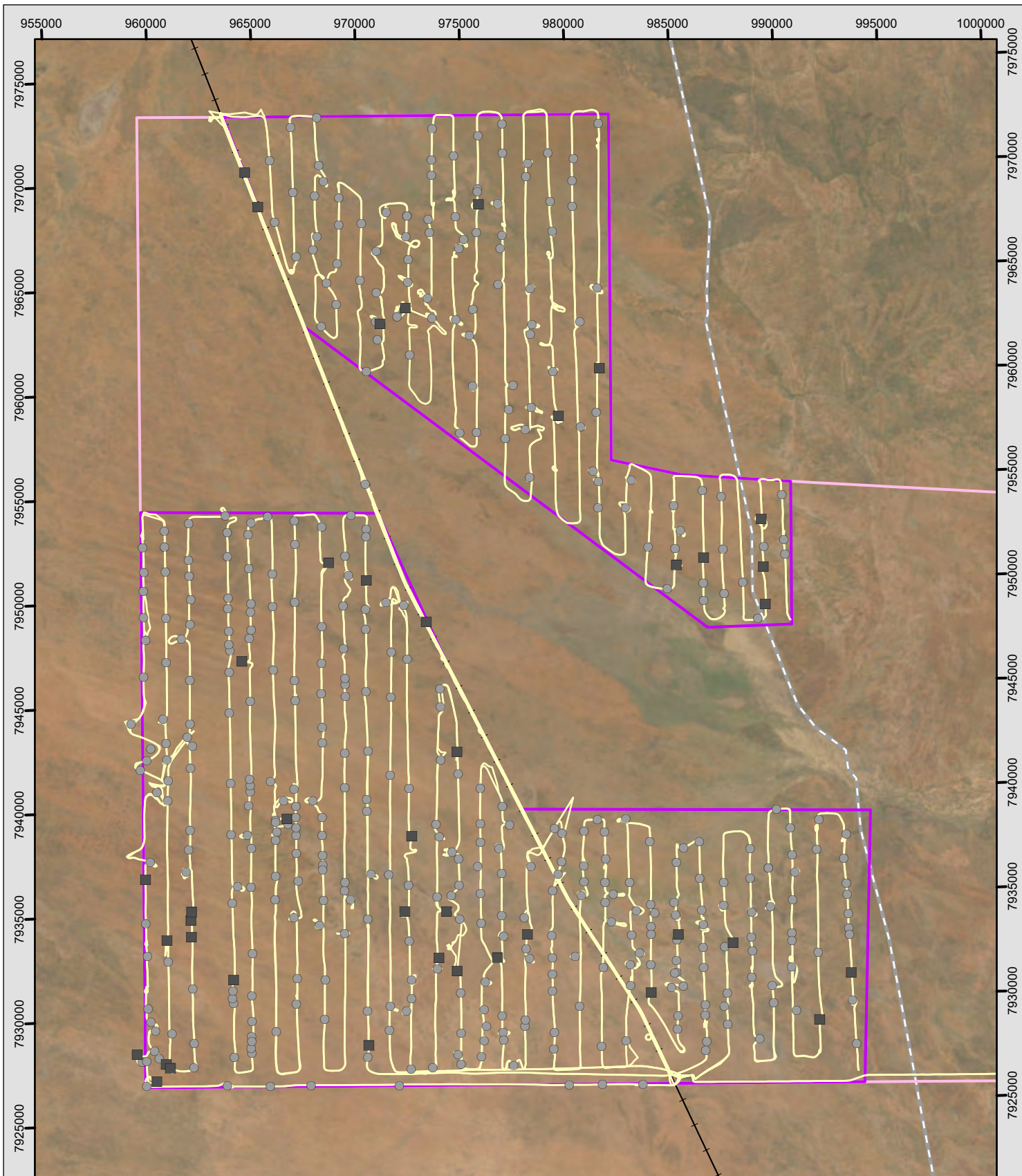
Low rocky hills are uncommon within the AOI. Where present, these areas had steeper terrain and often had areas of exposed surface outcrop. Vegetation mainly comprised of open to sparse woodland of *Eucalyptus leucophloia* or *Corymbia dichromophloia* over hummock grass. Shrubs were generally sparse.

One moderate drainage was recorded during the survey (located within the northern AOI). This drainage (known as Burke Creek) has well-formed banks (up to 2 m) and has coarse river sands in its channel (channel width varies between 5 and 10 m, approximately). River Red Gum (*Eucalyptus camaldulensis*) trees line the creek line, with patches of *Acacia* shrubs and tussock grasses also present. Vegetation within this creek line is considered as sensitive riparian vegetation under the Land Clearing Guidelines (DEPWS 2024). There were several waterholes present within the drainage at the time of survey.

Minor drainages are also uncommon within the AOI and are associated with rocky and undulating terrain. These drainages typically do not have well-formed banks or coarse river sand. They are only expected to have short-lived episodic flow. Although these areas may support denser shrubby vegetation than the surrounds, this does not constitute riparian vegetation.

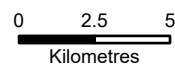
Alluvial plains and depressions are scattered through the AOI. They range from floodplain areas associated with the large drainage systems (Burke Creek and Tomkinson Creek) but also several smaller drainage lines and minor run-on areas. It is expected that these areas may become periodically inundated, and flora species established indicate a 'wetter' environment (such as presence of *Eucalyptus victrix* and *Corymbia flavescens*, and tussock grass dominated understory).

Ephemeral swamps are uncommon within the AOI. They range from small swamps in run-on areas within the broad sandplains, to large swampy plains associated with drainage systems from the Ashburton Range in the east. They support a distinct vegetation community that typically support an open woodland of *Eucalyptus victrix* with understory of water-tolerant tussock grasses and sedges. It is expected that the swamps will become seasonally inundated; however, only a few contained water at the time of survey. These swamps will be considered as sensitive under the Land Clearing Guidelines (DEPWS 2024b).



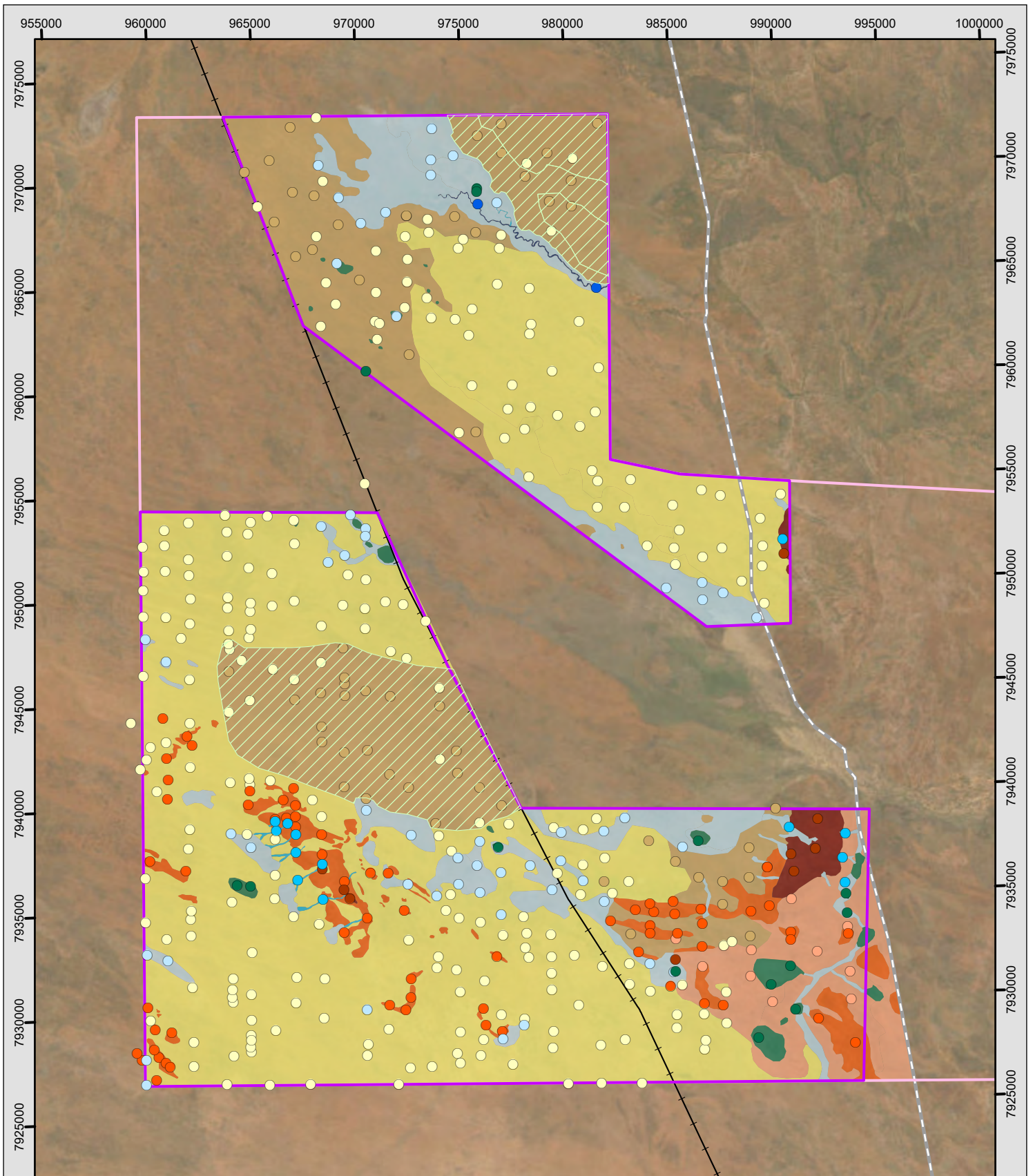
Legend

- Areas of interest
- Muckaty ALT
- Gas pipeline
- Railway
- Survey tracks
- Aerial based data
- Ground based data



MAP INFORMATION
 Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 3-1. Map of preliminary land type survey effort within the AOI



Legend		Site Landform	Landform
	Areas of interest		Sandplain
	Muckaty ALT		Loamy plain
	Gas pipeline		Lateritic plain
	Railway		Laterite rise
	Large area with sparse shrubs and trees		Low rocky hill
			Creekline
			Minor drainage
			Alluvial plain or depression
			Ephemeral swamp

MAP INFORMATION
 Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle

DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 3-2. Map of preliminary land types within the AOI

Table 3-1. Summary descriptions of preliminary land types identified within AOI

Land type	Sites	Landform & soil	Dominant floristic groups	Common upper layer species	Common mid layer species	Common ground layer species
Spinifex sandplain	Aerial – 221 Ground – 26	Flat to gentle slopes Red sands to sandy red/brown earths. Often very thin layer of red/orange aeolian sandy layer on the surface.	<ul style="list-style-type: none"> • Shrubland (including patches) to open shrubland (<i>Acacia lysiphloia</i> +/- <i>Acacia stipuligera</i>) over hummock grass +/- scattered trees. • Shrubland (<i>Acacia stipuligera</i>) over spinifex. • Shrubland to open shrubland (<i>Acacia torulosa</i> +/- <i>Acacia stipuligera</i>) over hummock grass +/- scattered low trees (<i>Corymbia setosa</i>). • Hummock grassland with sparse shrubs (mixed species, many dead/burnt) and sparse trees. 	<i>Corymbia opaca</i> <i>Corymbia setosa</i> <i>Corymbia flavescens</i> (less common) <i>Owenia reticulata</i> (uncommon)	<i>Acacia lysiphloia</i> <i>Acacia stipuligera</i> <i>Acacia torulosa</i> <i>Croton aridus</i> (less common) <i>Ipomea costata</i> (less common) <i>Petalostigma nummularia</i> (less common) <i>Grevillea refracta</i> (less common)	<i>Triodia sp.</i> (likely <i>T. pungens</i>) <i>Eriachne obtusa</i> <i>Aristida holathera</i>
Loamy plain	Aerial – 57 Ground – 2	Flat to gentle slopes Brown to pale red/orange loams. Some patches of sandy loam.	<ul style="list-style-type: none"> • Tussock grassland with scattered to sparse shrubs +/- trees. • Patchy shrubland (<i>Acacia spp.</i>) with scattered low trees and mallee. • Open low woodland with sparse shrubs over tussock grass +/- hummock grass. • Mixed grassland (hummock and tussocks) with scattered shrubs. 	<i>Corymbia opaca</i> <i>Corymbia flavescens</i> <i>Eucalyptus pruinosa</i>	<i>Acacia spp.</i> <i>Acacia lysiphloia</i> <i>Acacia hemignosta</i> <i>Hakea arborescens</i> <i>Carissa lanceolata</i> <i>Melaleuca spp.</i> (likely <i>M. nervosa</i> and <i>M. lasiandra</i>)	<i>Chrysopogon fallax</i> <i>Aristida holathera</i> <i>Aristida inaequiglumis</i> <i>Eriachne obtusa</i> <i>Eulalia aurea</i> <i>Bergia henshallii</i> <i>Triodia pungens</i> (patches only in sandier areas)
Laterite rise	Aerial – 59 Ground – 9	Low relief rises of gravel or stones. Lateritic gravelly soils.	<ul style="list-style-type: none"> • Low shrubland to low open shrubland (<i>Acacia hilliana</i> +/- <i>Acacia lysiphloia</i>, <i>Acacia monticola</i>, <i>Senna notabilis</i> typically on the edges). • Shrubland to open shrubland. (<i>Acacia monticola</i>) • Sparse shrubs and hummock grass (potentially result of fire). 	<i>Corymbia opaca</i> <i>Eucalyptus pruinosa</i>	<i>Acacia hilliana</i> <i>Acacia lysiphloia</i> <i>Acacia monticola</i> <i>Grevillea wickhamii</i> <i>Acacia orthocarpa</i> <i>Mirbelia viminialis</i>	<i>Triodia sp.</i> <i>Aristida holathera</i> <i>Senna notabilis</i>

Land type	Sites	Landform & soil	Dominant floristic groups	Common upper layer species	Common mid layer species	Common ground layer species
Lateritic plain	Aerial – 9 Ground – 1	Flat to gently undulating. Lateritic soils, some areas of gravel.	<ul style="list-style-type: none"> • Sparse to patchy shrubland (<i>Acacia monticola</i> and other Acacias) over hummock grass +/- patches of <i>Senna notabilis</i>. • Low open woodland to sparse low woodland over hummock grassland (regenerating). 	<i>Corymbia dichromophloia</i> <i>Eucalyptus leucophloia</i>	<i>Acacia lysiphloia</i> <i>Acacia monticola</i> <i>Acacia sp.?</i> (burnt) <i>Senna venusta</i> <i>Acacia difficilis</i>	<i>Triodia sp.</i> <i>Aristida sp.</i> <i>Senna notabilis</i>
Low rocky hill	Aerial – 9 Ground – 0	Moderate relief. Skeletal soils; patchy shallow soils, when present brown clay, silt sand.	<ul style="list-style-type: none"> • Low open woodland (<i>Eucalyptus leucophloia</i>) with patchy shrubs over hummock grass. • Low open woodland (<i>Corymbia dichromophloia</i>) with patchy shrubs over hummock grass. • Low open shrubland (<i>Acacia spondylophylla</i>, <i>Acacia adoxa?</i>) over hummock grass. 	<i>Eucalyptus leucophloia</i> <i>Corymbia dichromophloia</i>	<i>Acacia hilliana</i> <i>Acacia monticola</i> <i>Grevillea wickhamii</i> <i>Acacia spondylophylla</i> <i>Acacia adoxa?</i>	<i>Triodia sp.</i> <i>Aristida holathera</i> <i>Eriachne mucronata</i>
Alluvial plain or depression	Aerial – 54 Ground – 2	Flat to gentle slopes. Brown clayey loams. Potentially subject to seasonal sheet flow.	<ul style="list-style-type: none"> • Low open woodland (<i>Eucalyptus pruinosus</i> and <i>Corymbia opaca</i> +/- <i>Corymbia flavescens</i>) over tussock grass. • Low open woodland (<i>Eucalyptus victrix</i>) over tussock grass. • Open woodland (<i>Corymbia flavescens</i>) over tussock grass. • Sparse to open shrubland (<i>Melaleuca spp.</i> +/- <i>Grevillea refracta</i>) over tussock grass. • Open shrubland (<i>Grevillea refracta</i>) over tussock grass. 	<i>Eucalyptus victrix</i> <i>Corymbia flavescens</i> <i>Corymbia opaca</i>	<i>Grevillea refracta</i> <i>Melaleuca spp.</i> (likely <i>M. nervosa</i> and <i>M. lasiandra</i>) <i>Acacia lysiphloia</i> <i>Carissa lanceolata</i>	<i>Chrysopogon fallax</i> <i>Aristida holathera</i> <i>Aristida inaequiglumis</i> <i>Eriachne obtusa</i> <i>Eulalia aurea</i> <i>Triodia sp.</i> (patches only when adjacent to sandplains)
Ephemeral swamp	Aerial – 14 Ground – 0	Flat, distinct run-on areas. Clayey top loamy clays. Expected to become seasonally inundated.	<ul style="list-style-type: none"> • Low open woodland (<i>Eucalyptus victrix</i> +/- <i>Corymbia flavescens</i>, <i>Melaleuca spp.</i>) over tussock grass and sedges. • Low open woodland (<i>Corymbia flavescens</i>) over tussock grass. • Sedgeland with tussock grass. 	<i>Eucalyptus victrix</i> <i>Corymbia flavescens</i> <i>Acacia sericophylla</i> (less common)	<i>Melaleuca spp.</i> (likely <i>M. nervosa</i> and <i>M. lasiandra</i>)	<i>Eulalia aurea</i> Sedges <i>Marsilea drummondii</i>

Land type	Sites	Landform & soil	Dominant floristic groups	Common upper layer species	Common mid layer species	Common ground layer species
Minor drainage	Aerial – 13 Ground – 0	Gentle to low slopes. Clay loam soils. Does not have well-formed channel or creek banks (although some are gullies).	<ul style="list-style-type: none"> • Open shrubland (Melaleuca spp.) over tussock grass +/- scattered trees. • Open shrubland (Acacia spp. +/- Melaleuca spp.) over tussock grass +/- scattered trees. 	<i>Eucalyptus pruinosa</i> <i>Corymbia flavescens</i> <i>Corymbia opaca</i> <i>Corymbia dichromophloia</i> (when adjacent to rocky hills or rises) <i>Eucalyptus leucophloia</i> (when adjacent to rocky hills or rises)	<i>Melaleuca spp. (likely M. nervosa and M. lasiandra)</i> <i>Acacia monticola</i> <i>Acacia spp.</i>	<i>Eulalia aurea</i> <i>Themeda sp.</i> <i>Aristida sp.</i> <i>Triodia sp.</i> Sedges
Moderate drainage (Burke Creek)	Aerial – 1 Ground – 1	Gentle slopes. Well-formed banks. Distinct channel with coarse river sand. Episodic flow only. Several waterholes / pools are present within creek channel, some of which contained water at time of survey. Banks have brown clay loam soils.	<ul style="list-style-type: none"> • Woodland to open woodland (<i>Eucalyptus camaldulensis</i>) with scattered to patchy Acacia shrubs over sparse tussock grass. 	<i>Eucalyptus camaldulensis</i> <i>Hakea arborescens</i>	<i>Acacia difficilis</i> <i>Acacia coleii</i> <i>Acacia lysiphloia</i>	<i>Eulalia aurea</i> <i>Themeda sp.</i> <i>Aristida sp.</i> <i>Chrysopogon sp.</i>

3.3 Sensitive vegetation

The *Land Clearing Guidelines* (DEPWS 2024b) describe a range of vegetation types or landforms that are considered as sensitive or significant due to their unique and/or inherently high biodiversity value. The field survey verified that the following sensitive or significant vegetation types occur within the AOI:

- Riparian vegetation
- Ephemeral swamps
- Large, hollow-bearing trees.

3.3.1 Riparian vegetation

There is one creek line present within the AOI – Burke Creek – that is considered to support riparian vegetation. This creek supports River Red Gum (*Eucalyptus camaldulensis*) on its banks, with patches of Acacia shrubs over a tussock grass understorey (representative photograph provided Figure 3-3). The creek has well-formed banks approximately 1 to 2 m high. Creek bank erosion and gulying was commonly observed, likely a result of long-term pastoral activities in the area. This creek and its vegetation are considered as sensitive vegetation under the Land Clearing Guidelines (DEPWS 2024b).

3.3.2 Ephemeral swamp

Ephemeral swamps of varying sizes are scattered throughout the AOI. The swamps support a mixed tussock grassland and sedgeland, often with Smooth-barked Coolabah (*Eucalyptus victrix*) (representative photographs provided Figure 3-4). These areas are expected to become seasonally inundated, but are not expected to hold surface water for long periods of time. They are considered as sensitive/significant under the Land Clearing Guidelines (DEPWS 2024b). They may also be considered as minor wetlands but are not expected to attract congregations of waterbirds due to absence of surface water.

3.3.3 Large trees with hollows suitable for fauna

A general assessment of potential hollow-bearing significance based on known tree ecology and field survey observations is provided in Table 3-2. Survey evidence indicates that large trees with hollows are likely restricted to Burke Creek where River Red Gum (*Eucalyptus camaldulensis*) persists. All other trees species either typically do not support large hollows, and/or trees present have been fire impacted, thereby lowering hollow likelihood of occurrence.

Table 3-2. Hollow likelihood assessment for tree species observed within the AOI

Tree species recorded within AOI	Hollows observed during survey	Occurrence within AOI
River Red Gum (<i>Eucalyptus camaldulensis</i>)	Small hollows observed (<10cm); potential for large hollows in mature old trees.	Restricted to creek line
Desert Bloodwood (<i>Corymbia opaca</i>)	No hollows observed	Scattered across AOI
Cabbage Ghost Gum (<i>Corymbia flavescens</i>)	No hollows observed	Common within alluvial areas
Smooth-barked Coolabah (<i>Eucalyptus victrix</i>)	No hollows observed	Common within depressions and ephemeral swamps.
Native Walnut (<i>Owenia reticulata</i>)	No hollows observed	Rare within sandplain
Snappy Gum (<i>Eucalyptus leucophloia</i>)	No hollows observed. Most are small or have mallee-like formations due to fire impacts. Assume that large trees may support hollows.	Common in rocky hills
Variably-barked bloodwood (<i>Corymbia dichromophloia</i>)	None observed. No large trees observed.	Common in rocky hills



Figure 3-3. Photograph of riparian vegetation within the AOI



Figure 3-4. Photographs of ephemeral swamps present within the AOI

4 THREATENED SPECIES SURVEYS

The desktop threatened species 'likelihood of occurrence' assessment in Section 2.8 identified three species are considered to have a reasonable chance of occurring within the project area – Greater Bilby, Grey Falcon and Yellow-spotted Monitor. These three species were the subject of targeted surveys to determine presence and/or habitat suitability within the AOI.

Surveying was undertaken from the 3 to 6 June 2025 – the first day comprising a vehicle-based ground survey and the later three days a helicopter aerial survey. Survey conditions were ideal – sunny weather with few clouds and low wind. The nearest weather station, located at Elliott (station number 015131), recorded average minimum and maximum temperatures of 11.6°C and 27.7°C respectively, and easterly winds averaging 15.7 km/h at 9am, throughout the survey. There was no rain during the survey. Only one rain event occurred in the month prior to the survey, with 26.6 mm falling on the 28 May 2025 – six days prior to the survey commencing.

The survey was conducted under the following ecological permits / registrations:

- Project No. A24004: Fauna Studies in the Northern Territory (Animal Ethic Committee, Charles Darwin University)
- Permit No. 74225: Permit to Interfere with Wildlife for Commercial Purposes (Parks and Wildlife Commission of the Northern Territory)
- Registration No. 038: Registration to use, or allow an animal to be used, for scientific purposes (Department of Industry, Tourism and Trade).

As detailed below, surveys focussed on detecting evidence of the Greater Bilby, as well as assessing habitat suitability. At the same time, surveyors were also looking for evidence of Grey Falcons and Yellow-spotted Monitors – sightings, nests, burrows – and suitable habitat for those two species.

4.1 Greater Bilby

The desktop likelihood of occurrence assessment identified Greater Bilby as having a high likelihood of occurrence within the project area due to close-by regional records and the presence of suitable habitat within the desert sandplains, dune fields and lateritic plains and rises land system classes (see Section 2.5).

The objective of this current field survey was to confirm whether Greater Bilby currently occur (or have recently occurred) within the AOI, and to map the extent of suitable habitat. This information can be used to inform best locations for lowest impact to Greater Bilby within the AOI, propose potential management measures/controls, and to inform a significant impact assessment (if applicable).

4.1.1 Background

The Greater Bilby is a rabbit-sized, omnivorous, burrowing marsupial that is listed as Vulnerable under both the *EPBC Act* and *TPWC Act*. The species also has cultural significance in the NT (Paltridge 2016; Walsh and the Custodians of the Bilby 2016).

In the NT, they can occur in a relatively wide range of habitats – including stony uplands, lateritic areas, spinifex sandplains, mulga scrub and woodlands, drainage depressions and palaeo-drainage systems (Southgate 1987; Southgate 1990). Vegetation within these areas predominantly consists of spinifex shrublands and open woodlands. Typical habitat consists of sandy soils dominated by hummock grasslands predominantly of three species of spinifex – *Triodia basedowii*, *T. pungens* and *T. schinzii* (Pavey 2006). Surveys in the Tanami Desert indicate that spinifex-dominated laterite rises, and drainage lines are occupied more frequently than sand plains and dune fields (Southgate et al. 2005, Southgate et al. 2018)

A mosaic of different post-fire ages is preferred (Southgate & Carthew 2007). Fire seems to maintain the sparse vegetation the species favours, and promotes ephemeral plants used as primary and secondary food sources (Southgate & Carthew 2006; Southgate & Carthew 2007; Johnson 1989). However, large-scale burns may restrict breeding, impede dispersal and reduce food options/availability (Southgate & Carthew 2006).

The Greater Bilby is nocturnal and lives in deep burrows excavated in sand that are 2 to 3 metres long, and 100 to 150 mm in diameter, with a circular entrance. An individual may regularly utilise over a dozen burrows within its home range, and multiple burrows may be visited in a single night (Pavey 2006). Foraging distance from a burrow can range between 200 to 600 m (Johnston 1989).

Greater Bilby move over a wide area according to available food and vegetation cover conditions (associated with seasons and fires) (Southgate & Carthew 2006; Southgate & Carthew 2007; Southgate 1987; Johnson 1989), and the long-term seasonal home range may be hundreds of square kilometres (Southgate 1987).

The species feeds on plant material (seeds and bulbs) and invertebrates such as beetles, termites and root dwelling larvae (Pavey 2006a; Southgate & Carthew 2006). Food is either excavated from the soil (referred to as diggings or scratchings to a depth of 250 mm), live captured on the surface, or seeds eaten directly from the soil surface. Invertebrates tend to be foraged when seed and bulb food plants become scarce (Southgate & Carthew 2006).

Diggings for root-dwelling larvae (RDL) at the base of shrubs or forbs are unique to the Greater Bilby and are considered as a key identification characteristic (Southgate et al. 2018). Plants that are known to be targeted by Greater Bilby for root-dwelling larvae (in the NT) include *Acacia hilliana*, *A. lysiphloia*, *A. monticola*, *A. acradenia*, *A. melleodora*, *A. bivenosa*, *Senna notabilis* and *Indigofera georgei* (Southgate et al. 2018). These diggings can remain evident for months to years (Southgate 2017 pers. comm.); making surveys for occupancy or recent occupancy possible.

Before European settlement the Greater Bilby occurred over 70% of the Australian mainland. Since the late 1800s, Greater Bilbies have disappeared from at least 80% of their former range (DEPWS 2021). The species is currently confined to arid WA, the Tanami Desert in the NT and south-western Queensland, with an estimated population size of fewer than 10,000 individuals (DEPWS 2021).

Predation is a major threat, with the European Red Fox (*Vulpes vulpes*) and Feral Cat (*Felis catus*) being key predators (Abbott 2001; Pavey 2006; Southgate et al. 2007). Other threats include competition with European Rabbit (*Oryctolagus cuniculus*), pastoralism (Woinarski et al. 2014), and inappropriate fire regimes (described above).

4.1.2 Methodology

Surveying the presence of Greater Bilby relies on the use of sign-based survey methods (i.e. searching for tracks, burrows, diggings, scats), because the species is nocturnal and inherently sparse in the landscape (making sightings uncommon), and individuals are difficult to efficiently capture (Southgate et al. 2018). Survey design is based on NT draft guidelines (DEPWS 2024a), protocols developed by Southgate et al. (2018) and follows key elements of the Commonwealth survey guidelines for the species in terms of tracking and species detection in areas of suitable habitat (DSEWPac 2011).

The survey used a combination of aerial and ground-based survey techniques to detect Greater Bilby sign within the AOI. Habitat suitability was also assessed by describing vegetation types, food resource opportunities and threatening processes.

The survey was undertaken using a LongRanger helicopter (company Heli-Muster). Aerial transects were flown at approximately 1 km intervals in a north-south orientations within the AOI. The AOI is inclusive of a 2 km buffer of proposed development areas as per the NT draft guidelines (DEPWS 2024a). Aerial transects were flown at a speed of 60 to 100 km/hr and 30 to 45 m above the ground. Observers were positioned either side of the helicopter to maximise survey coverage. It is estimated that a survey extent 'strip' of 20 to 40 m was achieved (with width dependant on vegetation cover and helicopter speed due to wind conditions). In areas of

thicker vegetation (i.e. patches *Acacia lysiphloia*), the pilot was asked to reduce speed and/or do a 'fly-around/loop' to improve detection probability due to lower visibility in these areas.

Four types of sites were surveyed:

1. **Aerial habitat check** sites were conducted when favourable habitat for Greater Bilby was observed (i.e. laterite rises or sandplains with patches of shrubs that support root-dwelling larvae such as *Acacia hilliana* or *Acacia lysiphloia*, drainage areas that may support food plants such as *Cyperus bulbosus*, recently-burnt areas that may support food plants such as *Senna notabilis* or *Yakirra australiensis*). Aerial habitat check sites involved flying around the habitat area (i.e. shrub patch) with observers searching for potential sign. If sign was detected, a sign check site was undertaken (see below).
2. **Sign check** sites were conducted when putative (i.e. suspected / potential) Greater Bilby sign was observed during the aerial survey (such as a burrow/hole, large spoil heap, diggings). The pilot was informed to loop back around to recheck the putative sign. If the observers suspected the sign could potentially be Greater Bilby, and a suitable landing site was nearby, ground verification was conducted to confirm identification. The sign was allocated as 'confirmed bilby', 'likely bilby' or 'not bilby' (based on protocols summarised in Table 4-1). In some cases, if definitive evidence was observed from the air (i.e. mainly in the form of RDL diggings), ground verification was not undertaken. In addition, also ground-verified were a selection of goanna sign to ensure that aerial identification of goanna sign is accurate (this a requirement under the NT draft guidelines (DEPWS 2024a)).
3. **Ground habitat check** sites were conducted in areas of suitable habitat, but where bilby sign was not identified during the aerial survey. Although aerial survey provides a comprehensive assessment, there are risks of imperfect detection (i.e. false absence) for Greater Bilby sign (i.e. observers miss sign due to vegetation cover or some other reason). As such, ground-based surveys were strategically undertaken to check for Greater Bilby occurrence and potential 'false absence' data associated with the aerial-based observations (hence these sites being surveyed in areas of suitable habitat where putative sign was not identified during aerial survey). Ground habitat check sites typically involved a 5 to 10 minute check and the helicopter was generally not shut down.
4. **Track-plot** sites are similar to ground habitat check sites described above; however, they are conducted over a longer time period and cover more ground. They were typically conducted at locations where bilby sign was not identified during aerial survey; however, there may be some circumstances where track plots were conducted when putative sign was observed during aerial survey (those sites will be omitted from the false absence assessment). Track-plot sites involved on-ground searches for 20 to 30 minutes (or longer if sign was detected) within a 2 ha area. Methodology followed track-plot protocols described by Moseby et al. (2022).

4.1.3 Data collection

Data was collected using ESRI ArcGIS Field Maps data collection forms on mobile phones and tablets, Garmin GPS's (GPS Map 66s and 67), geo-tagged photographs via phone, tablet or camera and paper field sheets. Location (Latitude and Longitude), date, observer and representative photograph (if informative) were collected at all site types. Additional information collected at each site type are summarised, including an explanation of attributes, in Table 4-2.

Table 4-1. Protocol used to assess ID confidence of Greater Bilby sign

(Information presented in this table is adapted from DEWPS 2024a and Southgate et al. 2018)

Sign that can be used to CONFIRM presence of Greater Bilby
<p>Diggings into roots of RDL* vegetation</p> <p>Hole or diggings (usually less than 50cm in depth) under shrubs that support RDL. Direction or conical in shape with spoil evening distributed around the dig. Usually obvious and numerous. Can remain evident for months to years, depending on substrate and rainfall. Plants that are known to be targeted by Greater Bilby (in the NT) include <i>Acacia hilliana</i>, <i>A. lysiphloia</i>, <i>A. monticola</i>, <i>A. acradenia</i>, <i>A. melleodora</i>, <i>A. bivenosa</i>, <i>Senna notabilis</i> and <i>Indigofera georgei</i>.</p> <p>No other species in arid / semi-arid Australia is known to expose and rip open plant roots containing larvae.</p>
<p>Scats</p> <p>Typically in groups of 2 to 5 pellets and usually contain sand, plant and invertebrate material. They are firm, oblong-shaped, almost round in cross section, have a smooth coating, and rounded ends. Commonly found hidden within spoil of diggings; rarely found away from some form of digging activity. Can persist for several months.</p> <p>No other extant species in arid / semi-arid Australia produces scats with these characteristics.</p>
<p>Clear tracks (generally limited to fresh tracks only)</p> <p>Bilbies move with a quadrupedal bounding overstep gait; with the front imprints staggered and the hind imprints mostly parallel.</p> <p>The presence of fresh and clear tracks that have three distinct parallel marks (representing toes) from front feet, and slender (narrow) hind foot imprints with indistinct side toes are necessary to confirm presence using track-based sign. It is not sufficient to rely on gait pattern alone.</p>
Sign can only be used to identify LIKELY bilby presence / activity only
<p>Diggings other than for RDL</p> <p>These are similar to those described above for RDL, however they in the open targeting termites, spiders or bush onion bulbs.</p> <p>Several other taxa (including varanid lizards) can also produce similar diggings, as such presence cannot generally be confirmed solely on the detection of these types of diggings.</p>
<p>Burrow or burrows</p> <p>Burrows are round and may be single or multiple entrances. An apron of spoil of excavated sand is usually present. Several separate burrows are often found within a foraging area.</p> <p>Presence cannot generally be confirmed solely on the detection of a bilby-like burrow because other species can re-work inactive bilby burrows and make them appear active; as such, additional sign is often required to confirm presence.</p>
<p>Unclear tracks</p> <p>If tracks do not have features as described above (i.e. only the gait pattern is visible), there is insufficient evidence to confirm that the track is made from Greater Bilby as there are several other taxa that can produce similar gait patterns – such as rabbits, mulgara and rodents / rats.</p>

* RDL – Root-dwelling larvae; RDL vegetation are flora species that are known to support RDL.

Table 4-2. Data collection fields and attributes

Field	Attributes
Aerial habitat check site	
Flora	Free-hand notes of flora species observed, particularly dominant flora and species utilised by Bilbies (e.g. food resources).
Sign check site	
Observation position	Aerial / Ground / Aerial sighting, ground verified
Species	E.g. Greater Bilby, Goanna
Species age	Adult / Juvenile / Adult & juvenile
Sign type	Burrow / Digging – open / Digging – shrub / Scat / Track / Sighting / Other
Sign age	Fresh (0-2 days, scats fresh unbleached, tracks clear detailed) / Recent (3-7 days, scats drier starting to bleach, tracks faded or absent, no soil crust) / Older (>1 week or hard mud/substrate, scats dry bleached decomposing, soil crust)
Landform/vegetation	Turpentine shrubland / Acacia shrubland / Open sandplain / Alluvial sandplain / Depression / Laterite rise / Laterite rise with Acacia hilliana / Rocky hill / Other
Bilby food plant abundance	None / Low-Isolated / Medium-Patches / High-Widespread
Bilby food plant species present (noting if RDL diggings were present)	<i>Acacia acradenia</i> / <i>Acacia bivenosa</i> / <i>Acacia coleii</i> / <i>Acacia dictyophleba</i> / <i>Acacia hilliana</i> / <i>Acacia lysiphloia</i> / <i>Acacia melleodora</i> / <i>Acacia monticola</i> / <i>Acacia tumida</i> / <i>Cyperus bulbosus</i> / <i>Indigofera georgei</i> / <i>Scaevola parviflora</i> / <i>Senna artemisioides</i> / <i>Senna notabilis</i> / <i>Yakirra australiensis</i> / Other
Ground-based habitat check site	
Same information as 'Aerial habitat check site'. If sign detected a 'Sign check site' was undertaken.	
Track-plot site	
Time since rain	days
Shadow quality	Distinct shadow / Slight shadow / No shadow
Shadow length	%
Tracking surface quality	Good / Average / Poor
Tracking surface width	<1 m / 1-3 m / >3 m
Species	E.g. Greater Bilby, bird, small mammal
Sign abundance	One individual or signs in one quarter of plot / Signs in half of plot / Signs in all four quarters of plot
Sign age	<2 days / 3 to 7 days / >7 days
Ephemeral / annual vegetation	Present / Absent
Bilby food plant species present	<i>Acacia acradenia</i> / <i>Acacia bivenosa</i> / <i>Acacia coleii</i> / <i>Acacia dictyophleba</i> / <i>Acacia hilliana</i> / <i>Acacia lysiphloia</i> / <i>Acacia melleodora</i> / <i>Acacia monticola</i> / <i>Acacia tumida</i> / <i>Cyperus bulbosus</i> / <i>Indigofera georgei</i> / <i>Scaevola parviflora</i> / <i>Senna artemisioides</i> / <i>Senna notabilis</i> / <i>Yakirra australiensis</i> / Other

4.1.4 Results

Survey effort and conditions

Approximately 1,300 km of aerial survey and 150 km of vehicle survey was undertaken within the AOI. A total of 245 sites were conducted during the survey, including a combination of aerial habitat check sites (137 sites), track-plot sites (11 sites), ground-based habitat checks (5 sites), goanna sign verification sites (11 sites) and putative bilby sign checks (118 sites) (shown on Figure 4-1; site dataset provided Appendix E).

Vegetation cover was mainly spinifex or tussock grassland with open shrubs/woodland (good aerial visibility) interspersed by denser patches of shrubs (average to poor aerial visibility). In the cases of low visibility, repeat fly-overs were undertaken if potential food plants were observed (i.e. *Acacia* shrubland or patches), as well as several ground-based check sites.

Fresh burrows and diggings (from a range of species) were highly conspicuous from the air because excavated soil had a richer (red) colour in contrast to the sun-bleached paler surface soils.

There had been no rainfall for at least six days prior to the survey commencing, as such, conditions were ideal for detecting fresh and recent sign from a range of fauna (including Greater Bilby). Fortunately, distinctive RDL diggings made by bilby are not easily removed by rainfall and are expected to remain detectable for several months.

Tracking conditions were generally good to excellent for Greater Bilby detection, with distinct shadow and large areas of sandy surface soil at most sites.

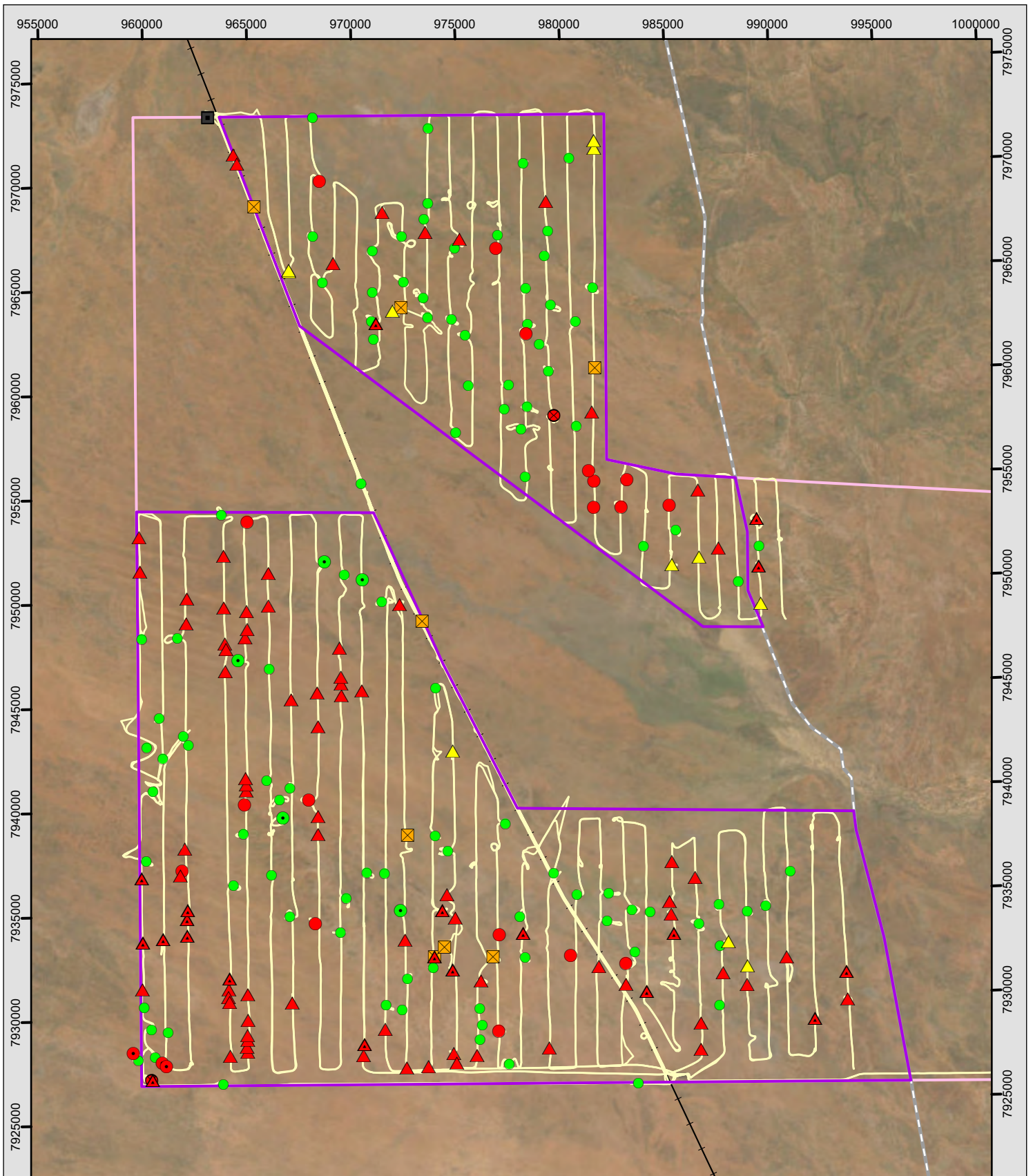
Evidence of presence

The survey recorded Greater Bilby sign at 53 sites, of which 33 sites were 'confirmed bilby' and 20 sites were 'likely bilby' (locations mapped in Figure 4-2) (site dataset provided in Appendix E). Greater Bilby sign included 73 burrows (14 were fresh, 21 recent and 38 old), numerous diggings (RDL and open diggings), and a few scats and tracks – example photographs of sign are presented in Figure 4-3 (record dataset provided in Appendix F).

The large circular burrows, presence of RDL diggings in the vicinity of most burrow sites, and the presence of scats and tracks at some burrow sites, all provide definitive evidence that Greater Bilby are present within the AOI and surrounding region.

The majority of Greater Bilby sites were recorded within the southern AOI (49 of the 53 sites) (shown on Figure 4-2). Of these, 27 sites had sign made within the last week (10 and 17 sites with fresh and recent sign, respectively) indicating current/recent occupation of Greater Bilby in the area (mapped in Figure 4-4). Many of these sites also had old sign, indicating that Greater Bilbies have had ongoing use of these areas (i.e. revisited these locations across at least two seasons).

The northern AOI only had four sites with Greater Bilby sign. Sign in this area was all old (estimated to be months to years) meaning that the Greater Bilby have previously inhabited this area, but there was no evidence in this survey that they currently persist in the area. Sign include old collapse burrows and RDL diggings, which can persist and be detectable for several months.



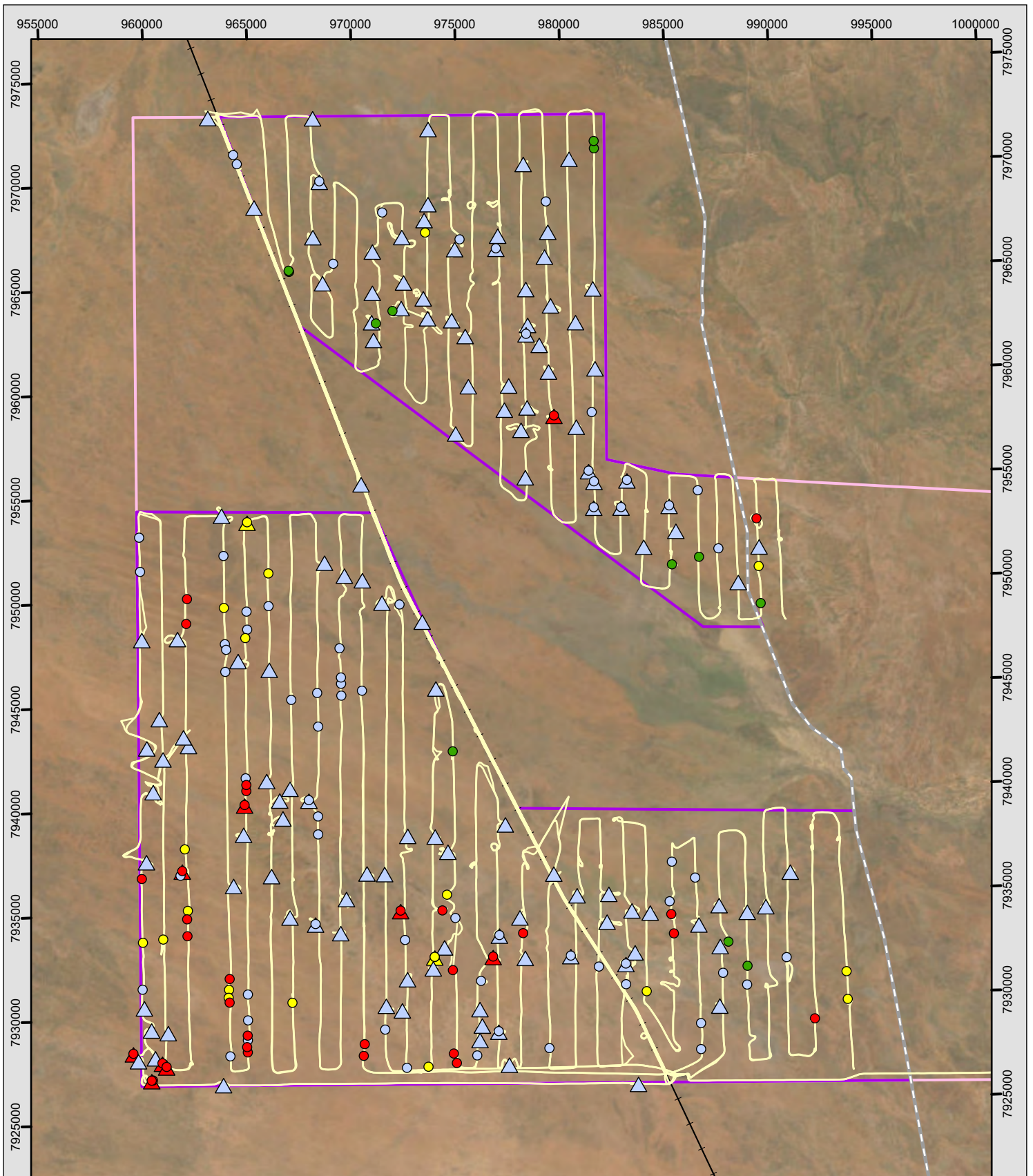
Legend	
	Areas of interest
	Muckaty ALT
	Gas pipeline
	Railway
	Survey tracks
Site Type	
	Aerial habitat check (101 sites)
	Aerial habitat check with ground check (5 sites)
	Aerial habitat check with sign check (aerial only) (18 sites)
	Aerial habitat check with sign check (ground-verified) (3 sites)
	Aerial habitat check with sign check (ground-verified), plus track-plot (2 sites)
	Aerial habitat check with track-plot (no aerial sign detected) (8 sites)
	Goanna sign ground verification (11 sites)
	Sign check, aerial verification only (76 sites)
	Sign check with ground verification (20 sites)
	Track-plot only, no aerial survey (1 site)

0 1.25 2.5 5
Kilometres

MAP INFORMATION
 Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle

DATA SOURCE
 Topographic data: OSM
 Project data: EcOZ
 Imagery: NTLIS

Figure 4-1. Map of Greater Bilby survey effort



Legend

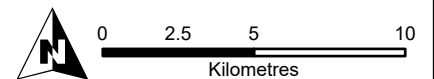
- Areas of interest
- Muckaty ALT
- Gas pipeline
- Railway
- Survey tracks

Sign Check Sites

- Confirmed Greater Bilby
- Likely Greater Bilby
- Not Greater Bilby
- Goanna sign ground verified

Aerial and Ground Habitat Sites (including Track-plots)

- ▲ Confirmed Greater Bilby
- ▲ Likely Greater Bilby
- ▲ No Greater Bilby sign observed



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 Scale: 1:250,000 @ A4
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 Mapper: nerida.liddle
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 4-2. Map of Greater Bilby survey results



Burrow observed from the helicopter



Burrow observed from the helicopter



Burrow observed on the ground



RDL diggings observed from the helicopter



Fresh RDL digging under *Acacia lysiphloia*



Old RDL digging under *Acacia hilliana*

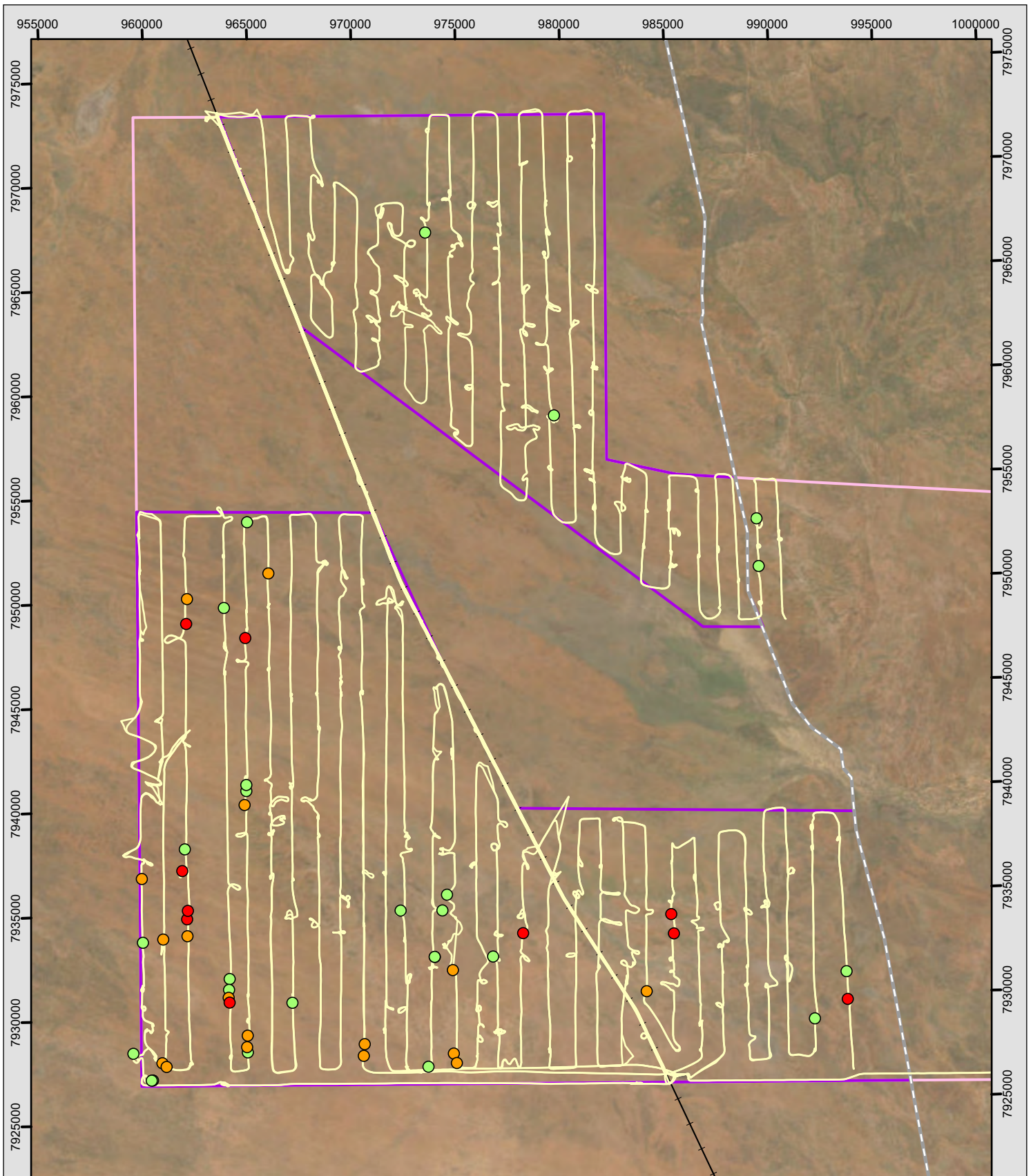


Fresh tracks



Fresh digging in the open with scats

Figure 4-3. Photographs of Greater Bilby sign types

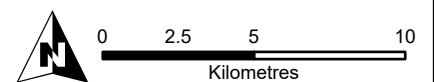


Legend

- Areas of interest
- Muckaty ALT
- Gas pipeline
- Railway
- Survey tracks

Greater Bilby sign age

- Fresh
- Recent
- Old



MAP INFORMATION
 Scale: 1:250,000 @ A4
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 Mapper: nerida.liddle
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 4-4. Map of Greater Bilby records per sign age (fresh, recent or old)

Habitat suitability within the AOI

Bilby sign was recorded within six main vegetation types (see Table 4-3). Most sites supported shrubs that are known to attract Root Dwelling Larvae (RDL) (a key food resource for the Greater Bilby). RDL diggings were observed under *Acacia lysiphloia* (10 sites), *Acacia torulosa* (13 sites), *Acacia hilliana* (9 sites), *Acacia monticola* (3 sites) and *Senna notabilis* (2 sites). It is noted that RDL diggings under *A. torulosa* are not documented as a RDL species in Southgate et al. (2018).

Greater Bilby sign was rarely observed in areas where RDL food plants were scarce (see Table 4-3). When there were, these sites were often relatively close (i.e. within 1 km) to areas that support RDL shrub species, and they also supported other potential food sources that Greater Bilby may be foraging (such as termites, spiders/invertebrates, and seeds or fruit from *Yakirra australiense* and *Scaevola parvifolia*). There is also a possibility that RDL shrubs were once present at these locations, but have been removed by recent fires (therefore they currently appear absent; presence of *Acacia* shrubs in this region can be highly influenced from season to season by fire).

Within the AOI, Greater Bilby are considered to have potential to occur within sandplains, laterite rises and lateritic plains; and to a lesser extent, loamy plains. Although these land types are considered as generally suitable habitat for Greater Bilby, there are 'hotspot areas' within those land types that are more favourable and more likely to support Greater Bilby (primarily due to the presence of RDL shrub species) – representative photographs provided in Figure 4-5. Therefore, to gain an understanding of potential hotspot extent within the AOI, RDL shrub presence data were collected during the aerial survey by recording sites with high or moderate abundance of RDL shrub species, and sites with no or low abundance of RDL shrub species (these data were collected in conjunction with land type data sites described in Section 3). This dataset is presented in Figure 4-6 and shows that there are numerous RDL shrub patches, but also large areas where RDL shrubs are absent or uncommon. It is considered unlikely that Greater Bilby will burrow or forage in these locations where there is a distinct absence or low abundance of RDL shrubs (main areas depicted in Figure 4-6; representative photographs provided in Figure 4-7).

Greater Bilby are considered unlikely to occur in the following land types due to soil type (i.e. poor burrowing suitability), cattle impacts, distinct lack of suitable food resources, and lack of confirmed bilby records:

- Low rocky hills
- Alluvial plains and depressions
- Drainage lines (creeks and minor drainages)
- Ephemeral swamps.

Table 4-3. Vegetation types with confirmed bilby or likely bilby records

Land type	Vegetation type	RDL plants	Confirmed bilby	Likely bilby
Sandplain	<i>Acacia lysiphloia</i> * shrubland to open shrubland +/- <i>Acacia stipuligera</i> over hummock grass	Common	7 sites	10 sites
Sandplain	<i>Acacia torulosa</i> shrubland to open shrubland +/- <i>Acacia stipuligera</i> over hummock grass	Common	10 sites	4 sites
Sandplain	Hummock grassland with sparse shrubs (mixed species, many dead/burnt) and trees	Scarce	3 sites	4 sites
Laterite rise	<i>Acacia hilliana</i> low shrubland to low open shrubland +/- <i>Acacia lysiphloia</i> , <i>Acacia monticola</i> , <i>Senna notabilis</i> (typically on the edges)	Common	12 sites	0 sites
Laterite rise	<i>Acacia monticola</i> shrubland to open shrubland	Common	1 site	0 sites
Laterite plain	Sparse to patchy shrubland (<i>Acacia monticola</i> and / or <i>A. torulosa</i>) with <i>Senna notabilis</i>	Common	0 sites	2 sites

* Some sites had burnt/dead *Acacia* sp. which were assumed to be *Acacia lysiphloia* based on structure and bark pattern (and surrounds).



Sandplain with *Acacia lysiphloia* shrubland



Sandplain with *A. lysiphloia* and *A. stipuligera* shrubland



Sandplain with *Acacia torulosa* shrubland



Sandplain with *Acacia torulosa* shrubland



Sandplain with open shrubs



Laterite rise with *Acacia hilliana*



Laterite rise with *Acacia hilliana*



Laterite rise with *Acacia hilliana* and *A. monticola*

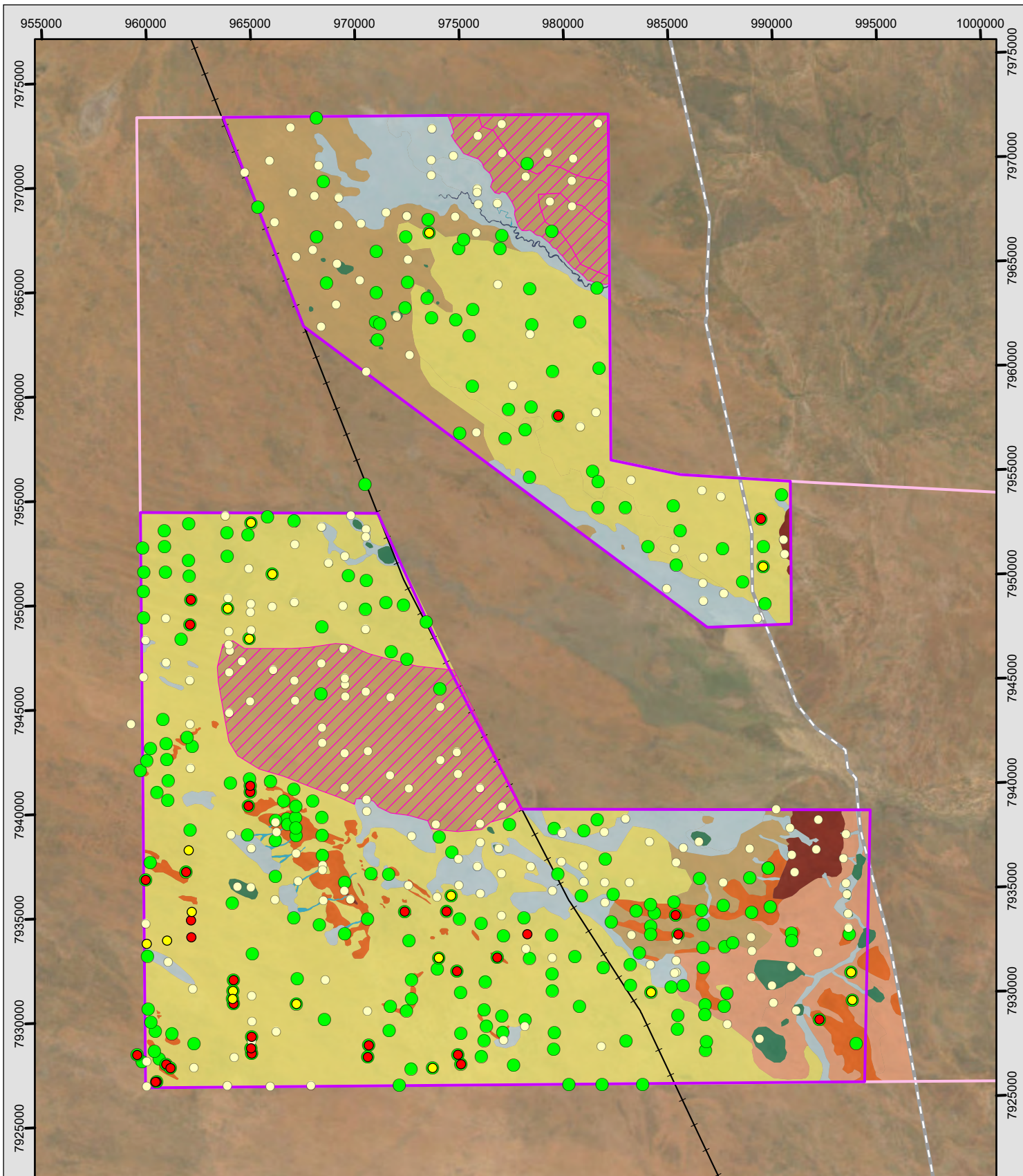


Lateritic plain with *Acacia monticola* and *Senna notabilis*



Lateritic plain with *Acacia monticola* and *Senna notabilis*

Figure 4-5. Photographs of habitat types where Greater Bilby sign was observed during the survey

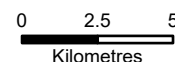


Legend

- Areas of interest
 - Muckaty ALT
 - Gas pipeline
 - Railway
 - Large area with sparse shrubs and trees (very low RDL abundance)
- RDL shrub presence**
- Potential
 - Unlikely
- Greater Bilby presence**
- Confirmed
 - Likely

Landform

- Sandplain
- Loamy plain
- Lateritic plain
- Laterite rise
- Low rocky hill
- Creek
- Minor drainage
- Alluvial plain or depression
- Ephemeral swamp



MAP INFORMATION
 Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle

DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 4-6. Map of Greater Bilby presence and RDL (general) abundance within the AOI



Figure 4-7. Photographs of large area of loamy plain that supports low abundance of RDL shrubs

Detectability assessment

A total of 12 track-plot and/or ground habitat check sites were conducted at locations where putative Greater Bilby sign was not observed during aerial inspections (to check for false absence detection during aerial surveys). Results indicate that most of these sites did not detect Greater Bilby sign on-ground (i.e. 9 of the 12 sites confirmed bilby absence). However, Greater Bilby sign was detected at three of these sites (sites S178, S185 and S205), meaning that Greater Bilby sign went undetected during aerial inspections on some occasions. Sign found at these sites were old RDL diggings that were concealed by high vegetation cover (often by *Acacia hilliana* which can have dense foliage), making aerial observation difficult / highly unlikely. These data indicate that aerial survey findings can be treated with reasonably high degree of certainty in terms of detecting general bilby presence in an area (especially in regards to recent/fresh sign). However, it also highlights that targeted ground checks are important (to increase the detection probability of Greater Bilby) when densely-vegetated areas of RDL shrubs species are present (especially in *Acacia hilliana* shrublands).

As expected, additional Greater Bilby sign was found during ground checks at several sites where putative bilby sign was observed from aerial survey. These additional sign types typically included those that are difficult to detect during aerial survey – such as concealed diggings, old diggings, old collapsed burrows, or smaller scale sign such as tracks and scats.

In general, the aerial survey was considered highly effective at detecting Greater Bilby burrows and digging activity due to the high vantage point making spoil heaps and soil disturbance conspicuous. Furthermore, putative aerial sign was sometimes difficult to locate when conducting ground-based sign checks, which indicates that bilby sign has potential to be overlooked / missed if solely relying on an on-ground survey. The ground survey was important to confirm ID and collect additional records. These results highlight the importance of a combination of aerial and ground-based survey to ensure a high detection probability of Greater Bilby is achieved.

It is also noted that goanna sign (burrows and digs) was commonly observed during the aerial survey. Because goanna sign can be confused with bilby sign (when aurally viewed), 12 aerial goanna sign sites were ground-checked to verify the aerial identification. All 12 sites were ground-verified as goanna (either *Varanus gouldii* or *V. panoptes*). This provides confidence that the observers were correctly identifying goanna sign from the helicopter (and therefore unlikely to misidentify goanna sign during aerial survey).

4.2 Grey Falcon

The Grey Falcon is a medium-sized raptor (bird of prey) that is listed as Vulnerable under both the *EPBC Act* and *TPWC Act*. They are sparse through much of the arid and semi-arid regions of Australia. In the NT, most records are from the southern half of the territory (Ward 2012). Grey Falcon occurs in lightly-timbered lowland plains, particularly *Acacia* shrublands that are crossed by tree-lined water courses (DoEE 2020), and have been observed hunting in treeless areas and frequents grassland and open woodland (Schoenjahn 2018). Nesting is usually in the tallest trees along watercourses, particularly River Red Gum (*Eucalyptus camaldulensis*) and Coolibah (*Eucalyptus coolabah*), and telecommunication towers (Falkenberg 2011). The northernmost record of (known) breeding occurs near Daly Waters (Schoenjahn 2013).

Given that this species is naturally rare, occurs at a low density and there are few records in the region (see Figure 2-6), the Grey Falcon is considered to have a moderate likelihood of occurrence within the project area.

The survey focused on identifying potential nest sites and nesting habitat (i.e. tall emergent trees) within the AOI. Searches were focused on drainage lines (due to higher likelihood of suitable tree species); however, searches were also conducted across all land types.

Field surveys did not detect Grey Falcon within the AOI; however, presence of suitable foraging and potentially-suitable nesting habitat was observed. Main findings are described below:

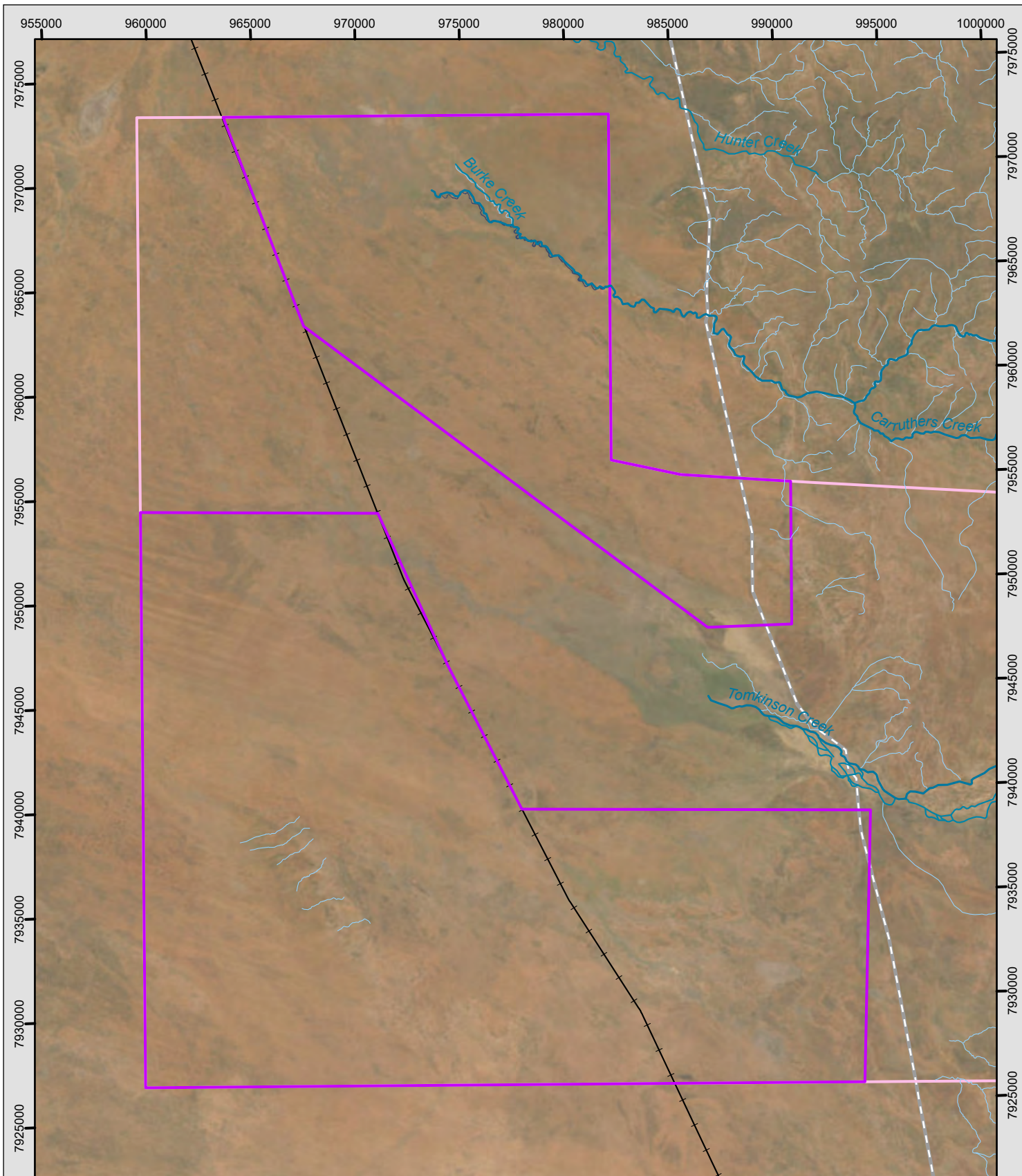
- Foraging habitat is widespread throughout the region and the AOI may be occasionally used for foraging / hunting (as an individual or pair).
- Potentially-suitable nesting habitat is present within a moderate drainage line within the northern AOI (Burke Creek) (representative photographs provided in Figure 4-8; drainage line mapped in Figure 4-9). This creek line supports River Red Gum trees, with isolated waterholes observed at the time of survey. Emergent trees along this creek line could provide potential nesting locations for Grey Falcon; however, no suspected nest sites were observed during the survey.
- A small ephemeral lake is present within a restricted area west of the railway line (in the southern AOI). This lake provides a seasonal water resource which may attract congregations of potential prey of the Grey Falcon; however, the trees at this location were mostly less than 10 m in height and dead, thus providing poor nesting habitat for the species.
- Other land types are not considered to provide suitable nesting habitat for Grey Falcon because the majority of trees present were less than 10 m in height and generally present as sparse or open woodlands, which lowers their suitability for being selected as a nest site. It is noted that occasional isolated emergent trees (such as *Corymbia flavescens* or *Corymbia opaca*) were observed in some of these land types; however, these tree species are not known to be used as nest sites by Grey Falcon.

Note that although no Grey Falcon nests were observed during this survey, nests are detectable from the helicopter, as evidenced by the Wedgetail Eagle nest shown in Figure 4-10.

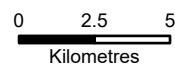
In summary, although no Grey Falcons or suspected Grey Falcon nests were observed during the survey, they are known to occur in the region (previous records), the AOI could be used for general foraging / hunting, and there is potentially-suitable nesting habitat in emergent River Red Gum trees established along creek lines within, and adjacent to, the AOI. Sightings of Grey Falcons are expected to be rare, with more frequent observations only occurring if Grey Falcons were to nest in, or close to, the AOI.



Figure 4-8. Photographs of potential Grey Falcon nesting habitat along Burke Creek



- Legend**
- Areas of interest
 - Muckaty ALT
 - Gas pipeline
 - Railway
 - Major Drainage
 - Minor Drainage
 - Streams
 - Landform**
Creek



MAP INFORMATION
 Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 4-9. Map of Burke Creek - a source of potentially-suitable nesting habitat for Grey Falcon



Figure 4-10. Photograph of Wedgetail Eagle nest within *Corymbia flavescens*

4.3 Yellow-spotted Monitor

The Yellow-spotted Monitor is a large terrestrial monitor ('goanna') that is listed as Vulnerable under the *TPWC Act*. It is a robust ground-dwelling monitor occupying a variety of habitats – including coastal beaches, floodplains, grasslands and woodlands (Ward et al. 2012). Its propensity to eat Cane Toads and die from the ingested toxins has caused a significant decline in the population (Ward et al. 2012).

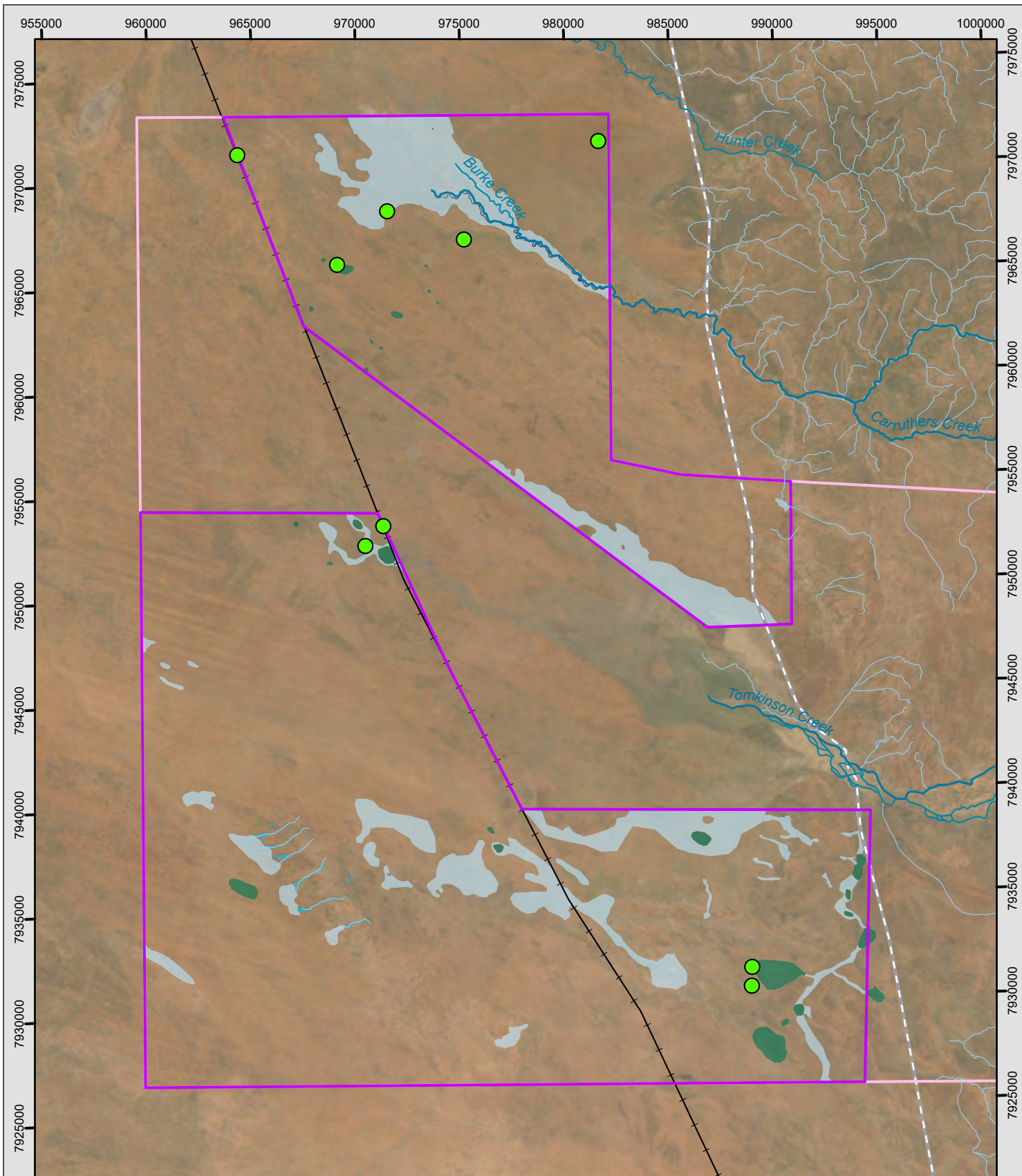
This species is known to occur in the region (including several records in the vicinity of Lake Woods); however, there are no prior records within Muckaty Station – see Figure 2-6. In the AOI, the species has a moderate likelihood of occurrence where alluvial depressions, alluvial plains and black soils are present, and also the desert sandplains that fringe the alluvial landforms.

During the targeted Greater Bilby survey (described in Section 4.1), nine large goanna burrows were incidentally observed in the AOI (representative photographs are provided in Figure 4-11; locations mapped on Figure 4-12). These large goanna burrows are assumed to be Yellow-spotted Monitor (because other varanid species in the region are not expected to construct burrows of those dimensions). These potential records also align well with the expected habitat requirements of this species – alluvial areas, proximate to Burke Creek, and in fringing sandplains. However, these records should be treated as indicative only because additional targeted surveying (such as camera trapping) would be required to confirm identification. Additional Yellow-spotted Monitor records are expected to occur throughout the AOI and project area, which could include the south-west portion of the project area.

In summary, the survey indicates that Yellow-spotted Monitors are likely to be present within the AOI in alluvial land types (i.e. drainage lines, alluvial plains, ephemeral swamps) and fringing habitats. The species is not expected to occur in the sandplains, rocky or gravelly land types.



Figure 4-11. Photographs of potential sign (burrows and digs) of Yellow-spotted Monitor



Legend		Landform	
	Areas of interest		Creek
	Muckaty ALT		Minor drainage
	Gas pipeline		Alluvial plain or depression
	Railway		Ephemeral swamp
	Potential Yellow Spotted Monitor sign		
	Major Drainage		
	Minor Drainage		
	Streams		

MAP INFORMATION
 Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle

DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2025\EZ25036 - Ecological surveys - Muckaty ALT\1. Project Files\2. Report Maps\EZ25036_NL_250613\EZ25036_NL_250613.aprx
 Layout: Figure 4-12. Map of sites where potential Yellow-spotted Monitor sign was observed

Figure 4-12. Map of sites where potential Yellow-spotted Monitor sign was observed

5 LAND CONDITION

There are a number of threatening processes to biodiversity as a consequence of human presence in the region. These are discussed below.

5.1 Weeds

Some species of introduced flora are declared to be weeds under the NT *Weeds Management Act* because of the environmental and/or economic harm they can cause. Class A weeds are to be eradicated by landowners and occupiers. Class B weeds must have their growth and spread controlled by landowners and occupiers. The remaining introduced flora species are referred to as *environmental weeds*. The Commonwealth Government has also categorised some species as Weeds of National Significance (WoNS).

Weed distribution is often related to environmental disturbances caused by the construction of roads and tracks, cattle grazing and feral animals. Weeds are most prevalent on land under pastoral lease, with infestations generally concentrated around infrastructure such as water points, fence lines and tracks, and also along the banks of watercourses where cattle and feral animals tend to congregate.

5.1.1 Desktop review

The NT Weed Management Branch (and NT Flora Atlas) dataset indicates that several key species have been recorded within 100 km of Muckaty ALT – in particular Parkinsonia (*Parkinsonia aculeata*) and Rubber Bush (*Calotropis procera*). Those records are predominantly restricted to occurring around bores, roads, Lake Woods, and its associated floodplains and waterholes. Within the AOI there are four weed records comprising three species: Rubber Bush recorded in 2020, Kapok Bush (*Aerva javanica*) recorded in 2004 and *Cenchrus pennisetiformis* recorded in 2004.

The project area falls within the scope of the *Tennant Creek Regional Weeds Strategy 2021-2026* (DEPWS 2021). That document prioritises the management of key weed species for the region, categorising them as either:

- Category 1 – Priority weeds for eradication
- Category 2 – Priority weeds for strategic control (including eradication of outliers)
- Category 3 – Weeds of concern – prevent spread
- Category 4 – Hygiene or biosecurity weeds – prevent spread
- Category 5 – Alert weeds - eradication on detection

All key weed species – those declared under the NT *Weeds Management Act*, WoNS or those categorised in the Tennant Creek Regional Weeds Strategy – are listed in Table 5-1.

Table 5-1. Key weed species identified within 100 km of Muckaty ALT

Common name	Scientific name	Class*	WoNS**	Status in management plan	Records within Muckaty ALT***
Bellyache Bush	<i>Jatropha gossypifolia</i>	A/B	Yes	Category 1	0
Blind Prickly Pear	<i>Opuntia puberula</i>	B/-	Yes	Category 1	0
Coral Cactus	<i>Cylindropuntia fulgida</i>	B/-	-	Category 1	0
Devils Rope Cactus	<i>Cylindropuntia imbricata</i>	B/-	-	Category 1	0
Gamba Grass	<i>Andropogon gayanus</i>	A/B	Yes	Category 1	0
Mesquite	<i>Prosopis pallida</i>	A	Yes	Category 1	1
Prickly Acacia	<i>Vachellia nilotica</i>	A	Yes	Category 1	0

Common name	Scientific name	Class*	WoNS**	Status in management plan	Records within Muckaty ALT***
Athel Pine	<i>Tamarix aphylla</i>	A/B	Yes	Category 2	0
Neem Tree	<i>Azadirachta indica</i>	B	-	Category 2	0
Parkinsonia	<i>Parkinsonia aculeata</i>	B	Yes	Category 2	1
Rubber Bush	<i>Calotropis procera</i>	B/-	-	Category 2	40
Buffel Grass	<i>Cenchrus ciliaris</i>	Declared	-	Category 3	2
Mossman River Grass	<i>Cenchrus echinatus</i>	B	-	Category 3	0
Noogoora Burr	<i>Xanthium strumarium</i>	B	-	Category 3	0
Kapok Bush	<i>Aerva javanica</i>	-	-	Category 4	1
Mission Grass (annual)	<i>Cenchrus pedicellatus</i>	-	-	Category 4	0
Senna	<i>Senna obtusifolia</i>	B	-	Category 4	1
Sickle Pod	<i>Senna occidentalis</i>	B	-	Category 4	0
Flannel Weed	<i>Sida cordifolia</i>	B	-	-	2
Hyptis	<i>Mesospaerum suaveolens</i>	B	-	-	0
Khaki Weed	<i>Alternanthera pungens</i>	B	-	-	0
Knob Weed	<i>Hyptis capitata</i>	B	-	-	0
Missions Grass (perennial)	<i>Cenchrus polystachios</i>	B	-	-	0
Paddy's Lucerne	<i>Sida rhombifolia</i>	B	-	-	0
Paterson's Curse	<i>Echium plantagineum</i>	A	-	-	0
Rubber Vine	<i>Cryptostegia madagascariensis</i>	A	-	-	0
Saffron Thistle	<i>Carthamus lanatus</i>	B	-	-	0
Spinyhead Sida	<i>Sida acuta</i>	B	-	-	0
Star Burr	<i>Acanthospermum hispidum</i>	B	-	-	0

* As per the NT Weeds Management Act. Class A – to be eradicated by landowners and occupiers. Class B – growth and spread controlled by landowners and occupiers. ** WoNS – Weeds of National Significance (Commonwealth listing). *** Three additional introduced species, not identified as key species, are recorded in Muckaty ALT – *Cenchrus pennisetiformis*, *Siratro* (*Macroptilium atropurpureum*) and *Giant Rat's Tail Grass* (*Sporobolus pyramidalis*).

5.1.2 Aerial weed survey

The weed survey included an aerial inspection (via helicopter flown at low elevation) within the AOI and a vehicle-based inspection along the eastern side of the railway line within the project area. Representative ground-checks were undertaken, including existing disturbed areas (i.e. roads) and drainage features because these areas generally have a higher likelihood of weed occurrence – survey effort is shown in Figure 5-1. This was not a targeted weed survey, instead comprising incidental weed observations recorded during land type and threatened species surveys. The aerial nature of this survey limits the detectability of weeds, with small plants, small infestations and weeds located under the canopy of other vegetation being difficult to detect.

The weed survey targeted key weed species as determined in desktop analysis (see Section 5.1.1). When a weed was observed, the following information was recorded in accordance with the *NT Weed Data Collection Guidelines* available at: <https://nt.gov.au/environment/weeds/weed-mapping-and-data-sharing>.

- Site name
- Weed name

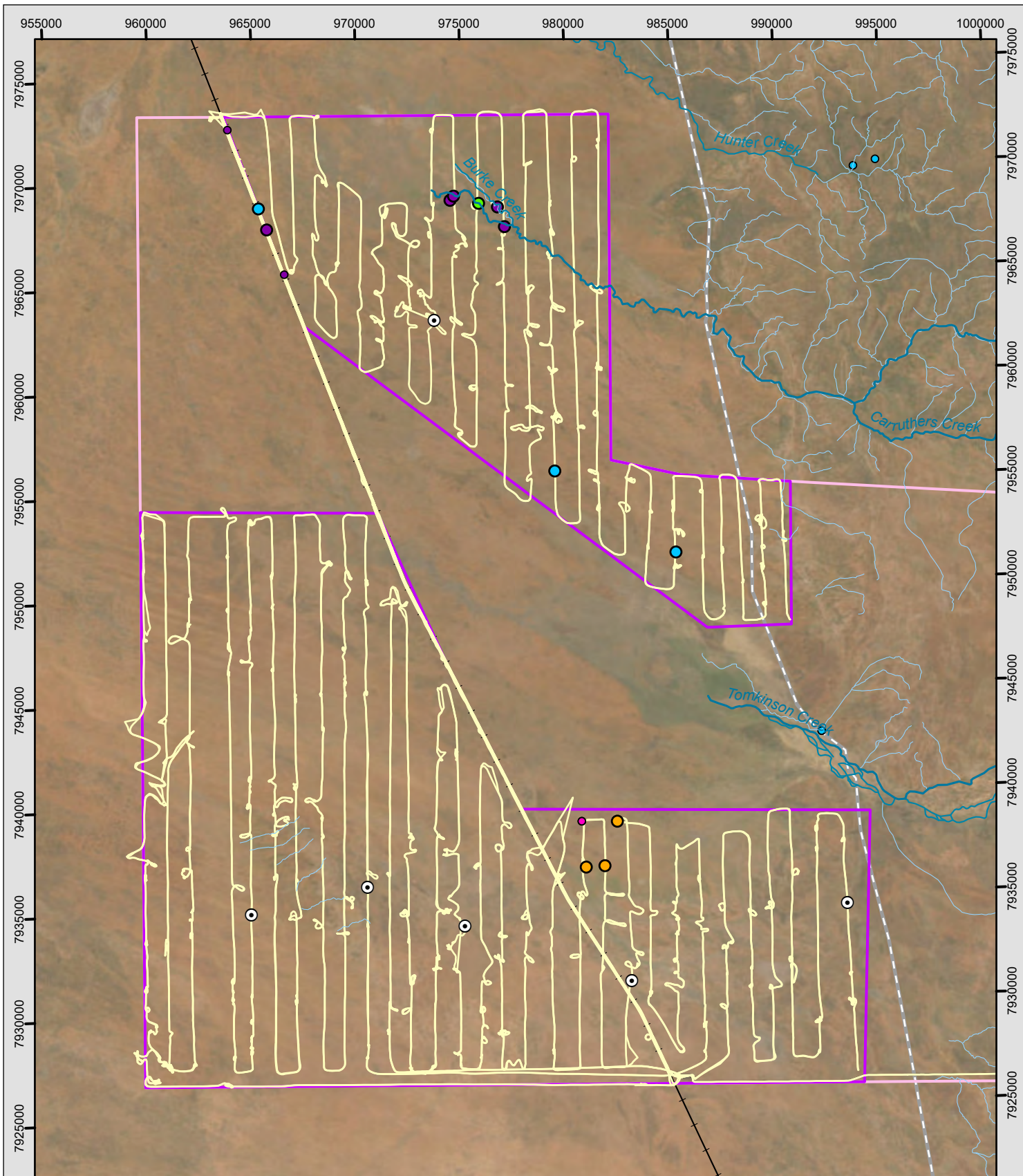
- ID confidence
- Date of record
- Coordinate information
- Recorder / organisation
- Infestation size (i.e. diameter of 5 m, 20 m, 50 m, 100 m, 200 m)
- Infestation density:
 - 1 = Absent, no weeds of this species in the area
 - 2 = < 1%; very few, not many weeds
 - 3 = 1 – 10%; more than one or two isolate plants
 - 4 = 11 – 50%; many plants, covering up to half the area
 - 5 = > 50%; weed forms the dominant cover.

Across this weed survey, 12 weed records were collected representing four weed species. These records are summarised in Table 5-2 and displayed in Figure 5-1. Two of these species are declared weeds in the NT – Rubber Bush and Buffel Grass (*Cenchrus ciliaris*). Two of the weeds – Rubber Bush and Bitter Paddy Melon (*Citrullus colocynthis*) – were in the northern portion of the AOI proximate to Burke Creek, with Rubber Bush also recorded on the railway line. Buffel Grass – also found in the northern portion of the AOI – was distributed in patches beneath the canopy of trees and along the railway line. It is expected that additional patches of Buffel Grass remained undetected beneath trees in this area. Kapok Bush (*Aerva javanica*) occurred in the southern portion of the AOI, often in clumps often proximate to trees and shrubs or around infrastructure. Example photographs are presented in Figure 5-2 to Figure 5-5. The survey indicates the AOI currently has very low weed infestation levels.

Table 5-2. Weed survey results

Date	Latitude*	Longitude*	Species	Cover (%)	Diameter (m)	Comments
6/6/25	-18.606175	133.552535	<i>Aerva javanica</i>	1-10	20	Small isolated patch
6/6/25	-18.586991	133.558316		1-10	200	Small isolated patches in area
6/6/25	-18.606707	133.544049		> 50	50	Small isolated patch
3/6/25	-18.330282	133.401721	<i>Calotropis procera</i>	1-10	5	Large plant adjacent to train tracks
4/6/25	-18.329700	133.509346		1-10	100	Patch of established plants
4/6/25	-18.321183	133.506258		1-10	10	Isolated plant
4/6/25	-18.318154	133.484817		1-10	100	Patch established around bore, tank and yard
4/6/25	-18.316357	133.486413		1-10	50	Small isolated patch near bore
3/6/25	-18.321164	133.398066	<i>Cenchrus ciliaris</i>	1-10	20	Adjacent to train track
4/6/25	-18.470868	133.585817		1-10	20	Isolated patch established under old burnt tree
4/6/25	-18.435459	133.531239		11-50	20	Isolated patch under tree canopy
4/6/25	-18.319560	133.497714	<i>Citrullus colocynthis</i>	1-10	100	Scattered groundcover

*GDA 2020



Legend

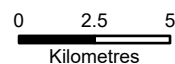
- Areas of interest
- Muckaty ALT
- Minor road
- Gas pipeline
- + Railway
- Major Drainage
- Minor Drainage
- Streams
- Survey tracks
- o Cat

Prior weed records

- *Aerva javanica*
- *Calotropis procera*
- *Cenchrus ciliaris*
- *Cenchrus pennisetiformis*

Survey weed records

- *Aerva javanica*
- *Calotropis procera*
- *Cenchrus ciliaris*
- *Citrullus colocynthis*



MAP INFORMATION

Scale: 1:250,000 @ A4
 Projection: GDA2020 MGA Zone 53
 Date Saved: 7/08/2025
 Client: AAPowerLink Australia Assets
 Mapper: nerida.liddle
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz
 Imagery: NTLIS

Figure 5-1. Map of weed and introduced fauna survey effort and results



Figure 5-2. Photograph of *Calotropis procera* as observed from the helicopter



Figure 5-3. Photographs of *Citrullus colocynthis* observed from the ground



Figure 5-4. Photograph of *Cenchrus ciliaris* as observed from the helicopter



Figure 5-5. Photographs of *Aerva javanica* as observed from the helicopter

5.2 Introduced fauna

According to the NT Fauna Atlas (based on records within 100 km of Muckaty ALT), the introduced fauna species listed in Table 5-3 are widespread and abundant within the region, and hence likely to occur within the project area. The Cane Toad, Feral Cat and European Red Fox are each listed as a Key Threatening Process under the *EPBC Act*.

Field observations were of extensive cattle tracks to the east of the railway line, especially proximate to bores. Camel tracks were sparsely scattered throughout the AOI. Numerous Feral Cats were sighted during the aerial survey – locations presented in Figure 5-1 – with additional cat tracks observed during landings across the AOI.

Table 5-3. Pest species known to occur within 100 km of the project area

Pest species	Comment
Cane Toad (<i>Rhinella marina</i>)	<ul style="list-style-type: none"> • AOI occurs at southern limit of species' distribution. • Responsible for significant declines in numerous species; lethal to carnivorous native animals if consumed. • Species requires constant access to moisture (water, dew or moist sand) to survive. • Key threatening process under the <i>EPBC Act</i>.
Feral Cat (<i>Felis catus</i>)	<ul style="list-style-type: none"> • Occur in a wide variety of different habitats. • Major pest (predator); has contributed to the decline of native fauna.
European Red Fox (<i>Vulpes vulpes</i>)	<ul style="list-style-type: none"> • Major pest (predator), especially affecting small and medium sized mammals, reptiles and ground dwelling birds. • Key threatening process under the <i>EPBC Act</i>.
One-humped Camel (<i>Camelus dromedarius</i>)	<ul style="list-style-type: none"> • AOI occurs at northern edge of species' distribution. • Utilises most habitats within the arid zone. • Can cause severe degradation to vegetation and water sources.
House Mouse (<i>Mus musculus</i>)	<ul style="list-style-type: none"> • Competes with native species. May impact upon native vegetation via seed predation
Feral Horse (<i>Equus caballus</i>)	<ul style="list-style-type: none"> • Occurs in a wide variety of different habitats • Can cause erosion of soil and watercourses, weed spread, trampling and consumption of native flora, and sedimentation and increased nutrient levels in watercourses
Donkey (<i>Equus asinus</i>)	
Buffalo (<i>Bubalus bubalis</i>)	

5.3 Erosion

Evidence of erosion was incidentally observed throughout the AOI. In general, there was low prevalence of erosion across the AOI, as summarised below:

- No erosion was observed in undisturbed areas (which constitutes the majority of the AOI).
- Erosion channels (rills and gullies) were observed along the length of sites with human disturbance, such as road, fence lines and the gas pipeline.
- Erosion was observed along the Burke Creek – both long-term lowering of the creek floor below the surrounding landscape, and recent channels (rills and gullies) forming in the side of the creek bank where water is running off the surrounding landscape into the creek line. This recent erosion of Burke Creek bank indicated strong surface flow of water in the surrounding landscape, potentially exacerbated by recent fires and grazing activity reducing surface vegetation that would slow the flow of surface water.

5.4 Fire

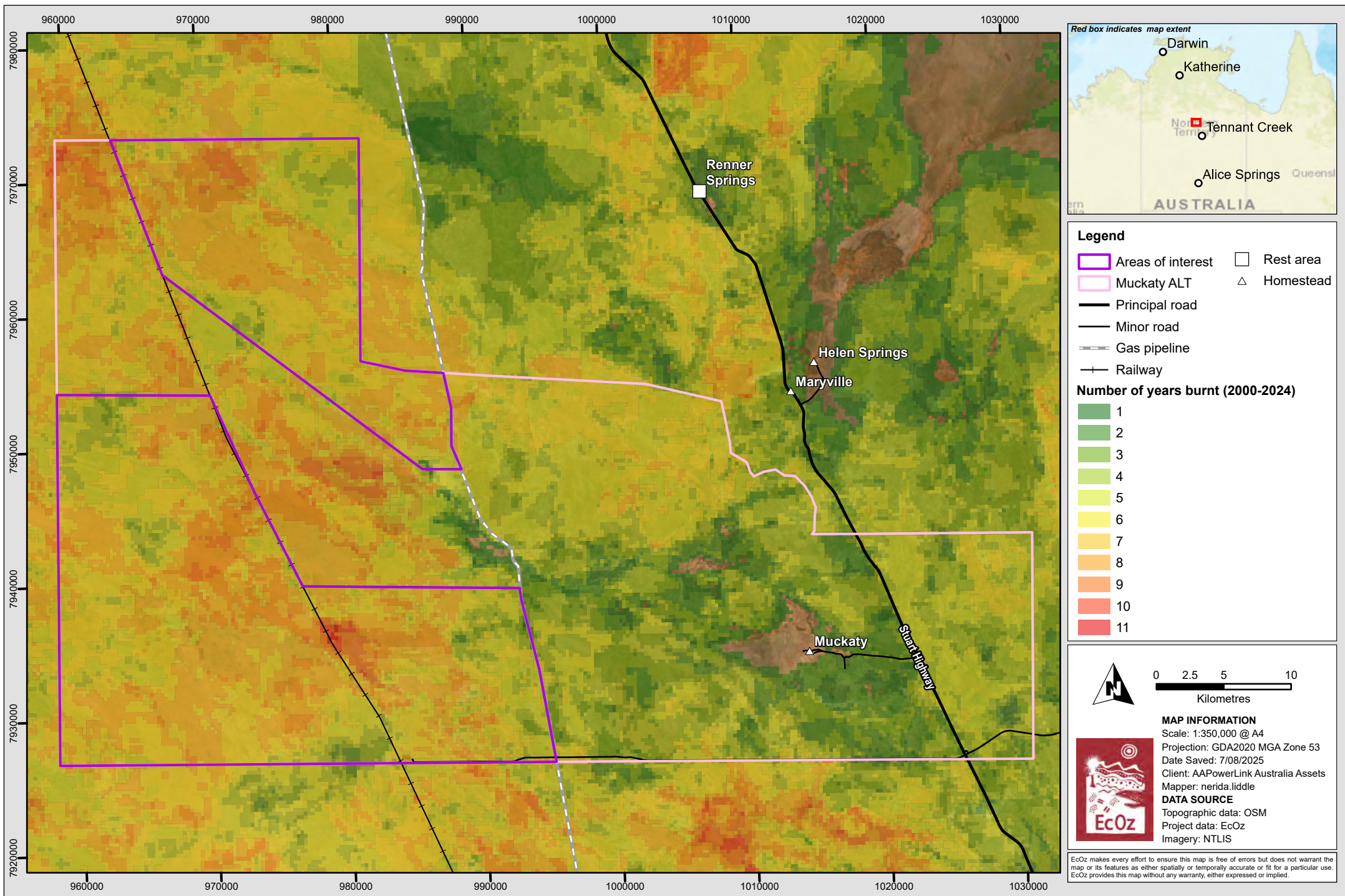
Regular fires have always been a natural part of the environment in the region. However, frequent fires can result in fewer flora species and reduced structural complexity (McKay 2017), both of which can also significantly diminish the habitat quality for fauna and facilitate weed invasion.

Fire frequency and fire scar mapping was obtained through the [Northern Australia and Rangelands Fire Information](#) (NAFI) website. The fire frequency (i.e. number of burns) within the project area is mapped in Figure 5-6, and the fire history 'years since last burn' (using NAFI fire scar data up to 2024) is mapped in Figure 5-7.

The project area has experienced a moderate fire frequency between 2000 and 2024, with the majority of the project area burnt five to seven times. There are small areas that have burnt four or less times, or between eight and eleven times. No areas have burnt more than 11 times since 2000. Muckaty ALT to the east of the gas pipelines has a lower fire frequency, with the majority experiencing five or less fires. Some small patches, especially around Muckaty Homestead and drainage depression / alluvial floodplains that dry out less frequently, have not burnt since before 2000. The higher fire frequency in the project area is likely because this area is linked to the adjacent desert sandplains to the west which are known to burn more frequently.

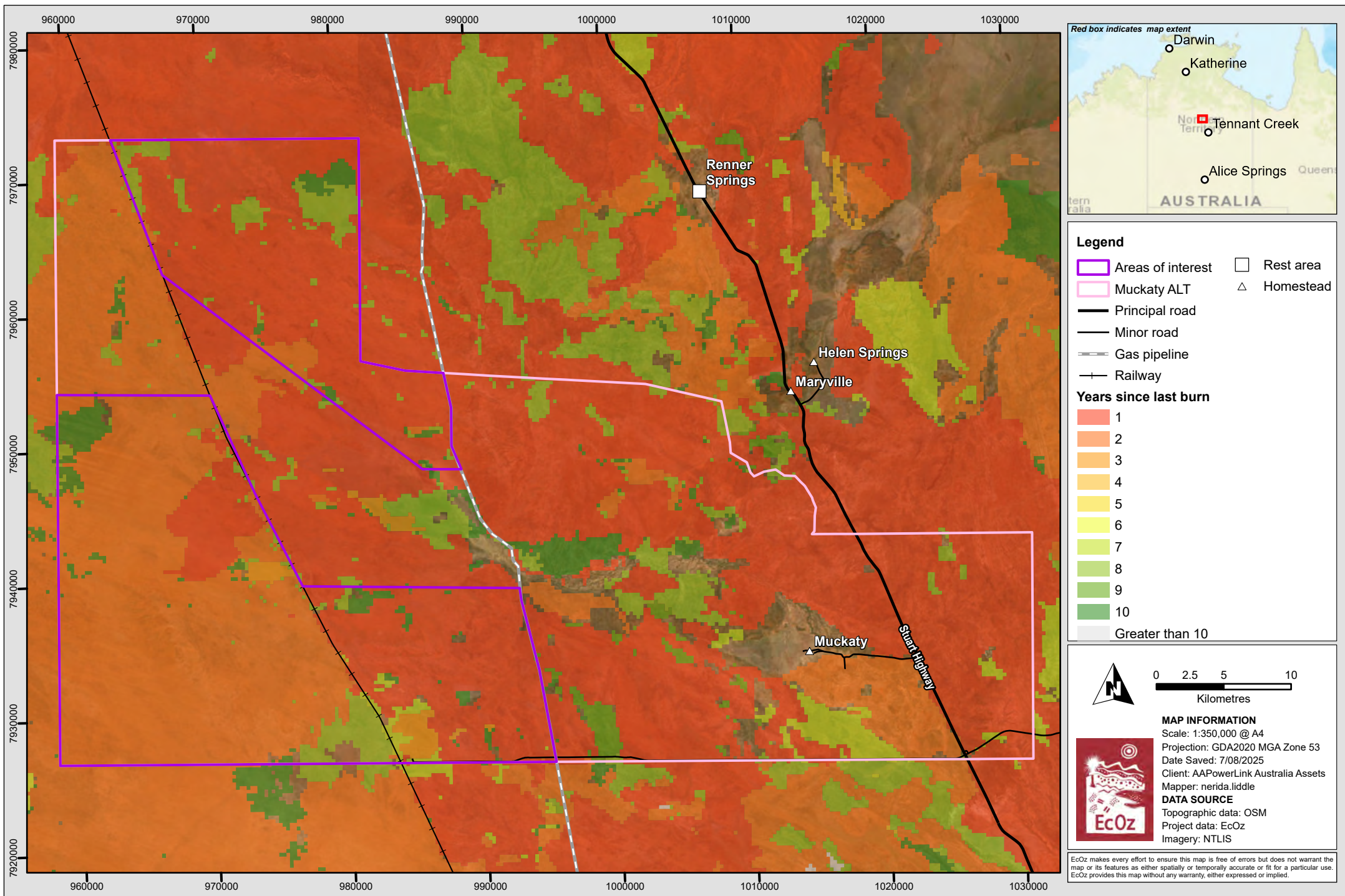
Much of Muckaty ALT, and thus the AOI, was burnt recently, with large areas east of the railway line burnt in 2024 and large areas west of the railway line burnt in 2023. This leaves smaller disconnected patches that have remained unburnt for three or more years.

Field observations were consistent with the recent widespread fires occurring across the AOI in 2023 and 2024, seen as large areas with similar size vegetation and burnt remains of shrubs. Significant regrowth of *Senna notabilis* – a post-fire shrub containing RDL utilised by Greater Bilby – was observed in patches to the east of the railway line in the southern AOI (burnt in 2024). This likely reflects the recent fire scars and available water in this area to support shrub growth. West of the railway line (burnt in 2023) had less *Senna notabilis* shrubs, but many small *Acacia* shrubs were growing beneath the burnt remains of adult *Acacias*.



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2025\EZ25036 - Ecological surveys - Muckaty ALT\1. Project Files\2. Report Maps\EZ25036_NL_250613\EZ25036_NL_250613.aprx
Layout: Figure 5-6. Map of fire frequency in Muckaty ALT

Figure 5-6. Map of fire frequency in Muckaty ALT



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2025\EZ25036 - Ecological surveys - Muckaty ALT\1. Project Files\2. Report Maps\EZ25036_NL_250613\EZ25036_NL_250613.aprx
Layout: Figure 5-7. Map of fire history - years since last burnt - in Muckaty ALT

Figure 5-7. Map of fire history - years since last burnt - in Muckaty ALT

6 CONCLUSION

The threatened species' survey effort undertaken for this report is considered adequate to broadly characterise the species' occurrence and distribution across the areas of interest. However, once a preferred project footprint has been determined, additional survey effort – presence/absence and habitat quality – will likely be required to inform an assessment of potential impacts to Greater Bilby from the project. Land type mapping may also need to be refined within the selected footprint as per the NT Land Clearing Guidelines (DEPWS 2024b).

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APPENDIX A PROTECT MATTERS SEARCH TOOL (PMST) REPORT



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 24-Jun-2025

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	16
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Species

[\[Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Chloebia gouldiae listed as Erythrura gouldiae Gouldian Finch [90091]	Endangered	Species or species habitat known to occur within area	In buffer area only
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area	In feature area
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area	In buffer area only

MAMMAL

Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat may occur within area	In feature area
Trichosurus vulpecula arnhemensis Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

REPTILE

Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Tiliqua scincoides intermedia Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat may occur within area	In buffer area only

Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species

Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area	In feature area
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Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area	In feature area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area	In feature area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]	
Protected Area Name	Reserve Type	State	Buffer Status	
Lake Woods Wetlands	Conservation Covenant	NT	In buffer area only	
Nationally Important Wetlands			[Resource Information]	
Wetland Name	State		Buffer Status	
Lake Woods	NT		In buffer area only	
EPBC Act Referrals			[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Manganese ore mining	2003/1251	Not Controlled Action	Completed	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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APPENDIX B DESKTOP THREATENED SPECIES 'LIKELIHOOD OF OCCURRENCE' ASSESSMENT

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
BIRDS				
Red Goshawk <i>Erythrotriorchis radiatus</i>	EN	VU	<p>Habitat: Prefers tall, open Eucalypt forest and riparian areas. Nests in large trees, frequently the tallest and most massive in a tall stand, nest trees are invariably within 1 km of permanent water (Debus & Czechura 1988; Aumann & Baker-Gabb 1991). Rarely breeds in areas with fragmented native vegetation (Aumann & Baker-Gabb 1991; Czechura 2001). Home range of up to 200 km² (Czechura & Hobson 2000).</p> <p>Distribution: Solitary and secretive hawk that is sparsely distributed across much of northern Australia, from the Kimberley in WA to south-eastern Qld. Within this range, generally confined to taller forests characteristic of higher rainfall coastal and sub-coastal areas (Debus 1998), but there are some isolated records of wandering birds from central Australia (Woinarski 2006).</p>	<p>LOW</p> <ul style="list-style-type: none"> Project area is outside species' known distribution. The closest recent record (2016) is approximately 150 km south near Tennant Creek (isolated record, vagrant only). If present in project area, likely to be a vagrant rather than resident or nest site. The project area does not support preferred breeding or foraging habitat.
			<p>Aumann, T. and Baker-Gabb, D. (1991). <i>A Management Plan for the Red Goshawk</i>. RAOU Report 75, Royal Australasian Ornithologists Union, Melbourne.</p> <p>Czechura G.V. and Hobson R.G. (2000). <i>The Red Goshawk Erythrotriorchis radiatus in northern Queensland: status and distribution</i>. Report to Queensland Parks and Wildlife Service.</p> <p>Czechura G.V. (2001). <i>The status and distribution of the Red Goshawk Erythrotriorchis radiatus on Cape York Peninsula, Queensland</i>. Unpublished report to Birds Australia.</p> <p>Debus, S. and Czechura, G. (1988). Field identification of the Red Goshawk <i>Erythrotriorchis radiatus</i>. <i>Australian Bird Watcher</i>, Vol. 12, pp. 154-159.</p> <p>Debus, S. (1998). <i>The Birds of Prey of Australia</i>. Oxford University Press, Melbourne.</p> <p>Department of the Environment (2022). <i>Erythrotriorchis radiatus</i> in Species Profile and Threats Database, Department of the Environment, Canberra. Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=942 [Accessed 23 Sep 2024]</p> <p>Woinarski, J. (2006). <i>Threatened Species of the Northern Territory - Red Goshawk - Erythrotriorchis radiatus</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0018/206352/red-goshawk.pdf [Accessed 1 May 2018].</p>	
Gouldian Finch <i>Erythrura gouldiae</i>	EN	VU	<p>Distribution: Patchily distributed across northern Australia from the Kimberley to north-central Qld (Dostine 1998; Franklin et al. 1999; Barrett et al. 2003; Franklin et al. 2005). In the NT, most known breeding populations occur in the Top End. Non-breeding birds disperse widely (Garnett et al. 2011), greatly increasing the possible range of this species.</p> <p>Habitat: Prefers areas with an adequate supply of seed from annual and perennial grasses (especially <i>Sorghum</i>), a nearby source of water and (in the breeding season) unburnt, hollow-bearing Eucalypt trees</p>	<p>LOW</p> <ul style="list-style-type: none"> Only one of the five key foraging grass species are mapped as possibly occurring within the project area. Muckaty ALT is at the southernmost extent of species' recorded range, and well outside the species usual range. However, there are recent records from Powell Creek station which indicates the species can irrupt into the region on rare occasions.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			(<i>E. tintinnans</i> , <i>E. brevifolia</i> and <i>E. leucophloia</i>) (Tidemann 1996; O'Malley 2006).	<ul style="list-style-type: none"> Project area is not considered to support suitable habitat for the species.
			<p>Barrett, G., Silcocks, A., Barry, S., Cunningham, R. and Poulter, R. (2003). <i>The New Atlas of Australian Birds</i>. Royal Australian Ornithologists Union, Melbourne, Victoria.</p> <p>Dostine, P. (1998). <i>Gouldian Finch Recovery Plan Erythrura gouldiae</i>. Gouldian Finch Recovery Team and Parks & Wildlife Commission NT, Darwin.</p> <p>Franklin, D.C., Burbidge, A.H. and Dostine, P.L. (1999). The harvest of wild birds for aviculture: an historical perspective on finch trapping in the Kimberley with special emphasis on the Gouldian Finch. <i>Australian Zoologist</i>, Vol. 31, pp. 92-109.</p> <p>Franklin, D.C., Whitehead, P.J., Pardon, G., Matthews, J., McMahon, P. and McIntyre, D. (2005). Geographic patterns and correlates of the decline of granivorous birds in northern Australia. <i>Wildlife Research</i>, Vol. 32, pp. 399-408.</p> <p>Garnett, S.T., Szabo, J.K. and Dutton, G. (2011). <i>The Action Plan for Australian Birds 2010</i>. CSIRO Publishing. Collingwood, Australia.</p> <p>O'Malley, C. (2006). <i>National Recovery Plan for the Gouldian Finch (Erythrura gouldiae)</i>. WWF-Australia, Sydney and Parks and Wildlife NT, DNRETA, NT Government, Palmerston.</p> <p>Tidemann, S.C. (1996). Causes of the decline of the Gouldian Finch <i>Erythrura gouldiae</i>. <i>Biological Conservation International</i>, Vol. 6, pp. 49-61.</p>	
Grey Falcon <i>Falco hypoleucos</i>	VU	VU	<p>Distribution: Sparse through much of the arid and semi-arid regions of Australia. In the NT, most records are from the southern half (Ward 2012). The northernmost record of (known) breeding occurs near Daly Waters (Schoenjahn 2013).</p> <p>Habitat: Occurs in lightly-timbered lowland plains, particularly Acacia shrublands that are crossed by tree-lined water courses (DoE 2020). Has been observed hunting in treeless areas and frequents grassland and open woodland (Schoenjahn 2018). Nesting is usually in the tallest trees along watercourses, particularly River Red Gum (<i>Eucalyptus camaldulensis</i>) and Coolibah (<i>Eucalyptus coolabah</i>), and telecom towers (Falkenberg 2011).</p>	<p>MODERATE</p> <ul style="list-style-type: none"> Project area is within species' known distribution. No records within the project; however, recent records near Lake Woods (in 2021). Potentially-suitable nesting habitat within project area because these areas may support tall trees (i.e. River Red Gum) within the larger watercourses. Foraging habitat is widespread throughout the region (and Central Australia). As such, project area may be occasionally used for foraging / hunting (by an individual or pair).
			<p>DoE (2020). Consultation Document on Listing Eligibility and Conservation Actions – Falco hypoleucos (Grey Falcon). https://www.environment.gov.au/system/files/consultations/ad34afee-a901-4c94-8e71-654e9f15f29c/files/consultation-document-falco-hypoleucos.pdf</p> <p>Falkenberg, I. D. 2011. Aspects of the ecology of the Grey Falcon Falco hypoleucos in the South Australian arid zone. <i>Corella</i> 35: 23–28.</p> <p>Schoenjahn, J. (2013), A hot environment and one type of prey: investigating why the Grey Falcon (Falco hypoleucos) is Australia's rarest falcon, <i>Emu</i>, Vol. 113, pp. 19-25.</p> <p>Schoenjahn, J. (2018). Adaptations of the rare endemic Grey Falcon Falco hypoleucos that enable its permanent residence in the arid zone of Australia. PhD Thesis. University of Queensland</p> <p>Ward, S. (2012). <i>Threatened Species of the Northern Territory - Grey Falcon - Falco hypoleucos</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0020/206354/grey-falcon.pdf [Accessed 1 May 2018].</p>	
Crested Shrike-tit (northern subspecies) <i>Falcunculus frontatus whitei</i>	VU	NT	<p>Habitat: Recorded in eight different woodland types in northern Australia, mainly those dominated by <i>Eucalyptus miniata</i>, <i>E. tetrodonta</i> or <i>C. bleeseri</i> (DSEWPaC 2013c; Robinson & Woinarski 1992). Nests have been found in the canopy of <i>E. tectifera</i>, <i>C. grandifolia</i> and <i>C. latifolia</i> at >12 m above the ground in open woodland habitat (Ward et al. 2009).</p>	<p>NONE</p> <ul style="list-style-type: none"> Project area is outside species' known distribution Vegetation types typically used by the species are not present within the project area.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Distribution: North-western Australia from the Kimberley in WA, across the Top End of the NT to Borroloola (TSSC 2016). In the NT, recorded in very low densities in many isolated sub-populations (Garnett & Crowley 2000) between north-east Arnhem Land and semi-arid Victoria River District. Scarcity of records suggests that populations are at very low density (Woinarski 2004). Not known to have disappeared from any area where recorded historically (TSSC 2016).</p>	
<p>Department of Sustainability, Environment, Water, Population and Communities (DSEWPac). (2013). <i>Falcunculus frontatus whitei</i> in Species Profile and Threats Database, Department of Sustainability, Environment, Water, Population and Communities, Canberra. [online] Available from: http://www.environment.gov.au/sprat.</p> <p>Garnett, S.T. and Crowley, G.M. (2000). <i>The Action Plan for Australian Birds 2000</i>. Environment Australia and Birds Australia, Canberra, ACT.</p> <p>Robinson, D. and Woinarski, J.C.Z. (1992). 'A review of records of the Northern Shrike-tit <i>Falcunculus frontatus whitei</i> in north-western Australia'. <i>South Australian Ornithologist</i>, Vol. 31, pp. 111-117.</p> <p>Threatened Species Scientific Committee (2016). <i>Approved Conservation Advice for Falcunculus frontatus whitei - crested shrike-tit (northern)</i>. Canberra: Department of the Environment. In effect under the EPBC Act from 02-May-2016. Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/26013-conservation-advice-05052016.pdf [Accessed 1 May 2018].</p> <p>Ward, S.J., Berghout, M. & Baker, B. (2009). Notes on the form and habitat of nests of the Northern Shrike-tit. <i>Northern Territory Naturalist</i>, Vol. 21, pp. 54-60.</p> <p>Woinarski, J.C.Z. (2004). <i>National multi-species Recovery Plan for the Partridge Pigeon [eastern subspecies] Geophaps smithii smithii; crested shrike-tit [northern (sub)-species] Falcunculus (frontatus) whitei; masked owl [north Australian mainland subspecies] Tyto novaehollandiae kimberli; and masked owl [Tiwi Islands subspecies] Tyto novaehollandiae melvillensis, 2004-2008</i>. NT Department of Infrastructure Planning and Environment, Darwin.</p>				
<p>Partridge Pigeon (eastern subspecies) <i>Geophaps smithii smithii</i></p>	VU	VU	<p>Habitat: Open forests and woodlands with an understorey of grasses (Woinarski 2006). Prefers woodland dominated by <i>Eucalyptus tetrodonta</i> and <i>E. miniata</i> (Braithwaite 1985; Garnett et al. 2011; Higgins & Davies 1996). According to Fraser (2001), favour a structurally-patchy savanna understorey at a relatively intricate scale. In all seasons, prefer to feed in areas that have an open ground layer (e.g. following fire); however, more likely to nest where there is dense vegetation cover. Require the seeds of certain perennial grasses and sedges that are available early in the wet season when seed is otherwise scarce, particular the perennial grass species <i>Alloteropsis semialata</i> and <i>Chrysopogon</i>. The presence of these grasses may be crucial for survival at this time (Fraser 2001). Largely sedentary; however, can travel distances of 5 to 10 km in the wet season in search of food and water resources (Fraser 2001). Home ranges vary seasonally between 8 – 31 hectares Fraser (2001).</p> <p>Distribution: Historically, across the Top End (from Kununurra in WA to Borroloola in the NT). Since early 20th century a severe range contraction from the western, eastern and southern parts of the former distribution (Higgins & Davies 1996; Woinarski et al. 2007). Currently, distribution is limited to sub-coastal NT from Yinberrie Hill in the south,</p>	<p>NONE</p> <ul style="list-style-type: none"> • Project area is outside species' known distribution • Vegetation types typically utilised by the species are not present within the project area.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			Litchfield NP in the west and (western) Arnhem Land in the east (Garnett et al. 2011).	
			<p>Braithwaite, R.W. (1985). <i>The Kakadu fauna survey: an ecological survey of Kakadu National Park</i>. Australian National Parks & Wildlife Service, Canberra.</p> <p>Fraser, F. (2000). Species profile: Partridge Pigeon <i>Geophaps smithii</i>. <i>Northern Territory Naturalist</i> 16, 38-39.</p> <p>Fraser, F., Lawson V., Morrison S., Christophersen P., McGregor S. and Rawlinson M. (2003). Fire management experiment for the declining partridge pigeon, Kakadu National Park. <i>Ecological Management and Restoration</i> 4, 94–102.</p> <p>Garnett, S.T., Szabo, J.K. and Dutson, G. (2011). <i>The Action Plan for Australian Birds 2010</i>. Birds Australia, CSIRO Publishing, Melbourne.</p> <p>Higgins, P.J. and Davies S.J.J.F. (eds) (1996). <i>Handbook of Australian, New Zealand and Antarctic Birds. Volume Three: Snipe to Pigeons</i>. Oxford University Press. Melbourne, Victoria.</p> <p>Department of Environment, Parks and Water Security (2021). <i>Threatened Species of the Northern Territory - Partridge Pigeon (eastern subspecies) - Geophaps smithii smithii</i> Northern Territory Government [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0003/206355/partridge-pigeon.pdf [Accessed 1 May 2018].</p> <p>Woinarski, J., Pavey, C., Kerrigan, R., Cowie, I. and Ward, S. (Eds) (2007). <i>Lost from Our Landscape: Threatened Species of the Northern Territory</i>. Northern Territory Government, Darwin.</p>	
Painted Honeyeater <i>Grantiella picta</i>	VU	VU	<p>Habitat: Acacia and Eucalyptus-dominated woodlands and open forest, preferring habitats with more mature trees that host more mistletoe. Breeding times and seasonal movements (south to north) likely governed by the fruiting of mistletoe (Garnett et al. 2011).</p> <p>Distribution: Across eastern and northern parts of the country – but nowhere very numerous (Ward 2012). Many birds move after breeding to semi-arid regions such as north-eastern SA, central and western Qld, and central NT (TSSC 2015). Few NT records – most from the Barkly Tablelands – but no evidence of a breeding population in the NT, and the records are likely irregular visitors from south-eastern Australia (Ward 2012).</p>	<p>LOW</p> <ul style="list-style-type: none"> • The species is occasionally observed in the region, with records at Three Ways (2011), Tennant Creek Wastewater Treatment Plant (2016) and near Newcastle Waters homestead (2000). • Considered an irregular visitor in the NT. • Vegetation and land type datasets available within the project area indicate that preferred habitats utilised by the species are unlikely to be present within the project area.
			<p>Garnett, S.T., Szabo, J.K. and Dutson, G. (2011). <i>The Action Plan for Australian Birds 2010</i>. CSIRO Publishing, Collingwood, Australia.</p> <p>Threatened Species Scientific Committee (TSSC) (2015). <i>Approved Conservation Advice for Grantiella picta (Painted Honeyeater)</i>. Canberra: Department of the Environment. Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/470-conservation-advice.pdf [Accessed 22 April 2024].</p> <p>Ward, S. (2012). <i>Threatened Species of the Northern Territory – Painted Honeyeater - Grantiella picta</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0009/373554/painted-honeyeater.pdf [Accessed 22 April 2024].</p>	
Night Parrot <i>Pezoporus occidentalis</i>	EN	EN	<p>Habitat: Flat spinifex (<i>Triodia</i> spp.) grasslands in stony or sandy environments; and samphire and chenopod shrublands – including genera such as <i>Atriplex</i>, <i>Bassia</i> and <i>Maireana</i> – on floodplains and claypans, and on the margins of salt lakes, creeks or other sources of water (from a variety of sources cited in DoE 2017).</p> <p>Distribution: Extremely sparsely distributed through central arid regions. In the NT sightings were made up to 1923 in the Alice Springs region (Whitlock 1924). Presumed extinct until recently rediscovered in western Qld and north-western WA.</p>	<p>LOW</p> <ul style="list-style-type: none"> • There are two unconfirmed records approximately 125 km to the south-west of the project area. • Available vegetation and land system datasets indicate that spinifex grasslands are present within the project area, which may provide suitable for the species. However, fire history in the area indicates that the majority of the project area has burnt at least 3 times in the past 20 years. Consequently, it is likely that habitat is not suitable for the species (as they require long unburnt

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
				<p>patches of spinifex). Additionally, the key spinifex species (Bull Spinifex <i>Triodia longiceps</i>) is not known to occur within the project areas.</p> <p>Department of the Environment (2017). <i>Pezoporus occidentalis</i>. Species Profile and Threats Database. Department of the Environment, Canberra. [online] Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=59350 [Accessed 24 September 2024]</p> <p>Whitlock, F. (1924). Journey to central Australia in search of the night parrot. <i>Emu</i>, Vol. 23, pp. 248-281.</p>
Princess Parrot <i>Polytelis alexandrae</i>	VU	VU	<p>Habitat: Usually occurs in swales between dunes and occasional on dune slopes and crests that support shrubs typically <i>Eremophila</i>, <i>Grevillea</i>, <i>Hakea</i> and scattered trees (Pavey 2006). Use hollows in large trees for breeding, in particular Marble Gum, River Red Gum (<i>Eucalyptus camaldulensis</i>) and Desert Oak (<i>Allocasuarina decaisneana</i>) (Pavey 2006).</p> <p>Distribution: Confined to arid regions of WA, the NT and SA (Barrett et al. 2003; Blakers et al. 1984; Higgins 1999). Highly nomadic and, as noted in DoE (2016), 'an irregular visitor (sometimes at intervals of more than 20 years) to most sites in its range and its movements are largely unknown.'</p>	<p>LOW</p> <ul style="list-style-type: none"> • Preferred habitat is not present within the project area. However, land system mapping indicates that the Muckaty Solar project area supports desert sandplains and desert dune fields which may provide suitable foraging habitat for the species. The absence of large hollow-bearing trees in these areas indicates it is unlikely that breeding occurs within or near to the project area. • There are 13 NT Atlas records approximately 70 km north of the project area (from 1976), which indicates species has historically been observed in the local region. • Species is highly nomadic and could occasionally pass through the project area as a vagrant; but is not expected to specifically utilise (or depend on) habitat in the area. • The presence of pastoral impacts and fire history within the project area may have reduced habitat suitability / quality for the species.
			<p>Barrett, G. Silcocks, A. Barry, S. Cunningham, R. and Poulter, R. (2003). <i>The New Atlas of Australian Birds</i>, Birds Australia, Melbourne, Victoria.</p> <p>Blakers, M. Davies S.J.J.F. and Reilly P.N. (1984). <i>The Atlas of Australian Birds</i>. Melbourne, Victoria: Melbourne University Press.</p> <p>Britton, P.L. (1992). The Queensland Ornithological Society Bird Report, <i>Sunbird</i>, 22:51-83.</p> <p>Department of the Environment (2017). <i>Polytelis alexandrae</i>. Species Profile and Threats Database. Department of the Environment, Canberra. [online] Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=758 [Accessed 1 May 2018].</p> <p>Higgins, P.J. (ed.) (1999). <i>Handbook of Australian, New Zealand and Antarctic Birds</i>. Volume 4: Parrots to Dollarbird, Oxford University Press, Melbourne, Victoria.</p> <p>Pavey, C. (2006). <i>Threatened Species of the Northern Territory - Princess Parrot - Polytelis alexandrae</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0017/206360/princess-parrot.pdf [Accessed 1 May 2018].</p>	
Purple-crowned Fairy Wren (western subspecies)	EN	VU	<p>Habitat: Riparian areas along the Victoria River, usually associated with areas of dense river grass – <i>Chionachne cyathopoda</i> (Rowley 1993; van Doorn & Low Choy 2009). Also known from <i>Pandanus aquaticus</i> habitat (van Doorn & Low Choy 2009). Generally confined to riparian habitats.</p>	<p>NONE</p> <ul style="list-style-type: none"> • Project area is outside species' known distribution • Vegetation types typically utilised by the species are not present within the project area.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
<i>Malurus coronatus coronatus</i>			<p>Distribution: Occurs from the central Kimberly in WA to Victoria River in the NT. Within this range, almost entirely restricted to a narrow band around well-defined river channels. The extinction of the Ord River population in WA has isolated the Victoria River system populations from those in the Kimberley by 250 km, a distance which the subspecies would be unable to traverse (Skroblin et al. 2014).</p>	
<p>Rowley, I. (1993). The Purple-crowned Fairy-wren <i>Malurus coronatus</i>. I History, distribution and present status. <i>Emu</i>, Vol. 93, pp. 220-234.</p> <p>Skroblin, A., Cockburn, A. and Legge, S. (2014). The population genetics of the purple-crowned fairy-wren (<i>Malurus coronatus coronatus</i>), a declining riparian passerine. <i>Australian Journal of Zoology</i>, Vol. 62, pp. 251-259.</p> <p>van Doorn, A. and Low Choy, J. (2009). A description of the primary habitat of the Purple-crowned Fairy-wren <i>Malurus coronatus coronatus</i> in the Victoria River District, N.T. <i>Northern Territory Naturalist</i>, Vol. 21, pp. 24-33.</p>				
<p>Sharp-tailed Sandpiper</p> <p><i>Calidris cuminata</i></p>	VU MIG	-	<p>Habitat: Prefer muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, salt pans and hypersaline lakes inland. Also occur in saltworks and sewage farms, as well as flooded paddocks, sedgeland and other ephemeral wetlands, but leave when they dry. Occur in intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and creeks lined with mangroves. Tend to occupy coastal mudflats mainly after ephemeral terrestrial wetlands have dried out, moving back during the wet season. Sometimes occur on rocky shores, rarely on exposed reefs (Higgins & Davies 1996).</p> <p>Distribution: A summer migrant from the northern hemisphere; some over-winter in Australia. In the NT, mostly occur in the north coastal regions, generally east to Groote Eylandt and Gove Peninsula, but also around McArthur River and east of Borroloola. Widely but sparsely scattered inland records occur south to northern Tanami Desert, and in south Northern Territory, from Alice Springs, north to Napabie Lakes and south to Uluru National Park (Higgins & Davies 1996).</p>	<p>LOW</p> <ul style="list-style-type: none"> Recent records (in 2024) at Lake Woods. No records within the project area. Preferred habitat does not occur within the project area. It is possible that large swamps or drainage depressions – if inundated – could be suitable for short term stop-overs. May be observed as a flyover / in transit at both project area due to proximity to Lake Woods.
<p>Higgins, P.J. & S.J.J.F. Davies, eds (1996). <i>Handbook of Australian, New Zealand and Antarctic Birds. Volume Three - Snipe to Pigeons</i>. Melbourne, Victoria: Oxford University Press.</p>				
<p>Curlew Sandpiper</p> <p><i>Calidris ferruginea</i></p>	CR MIG	CR	<p>Habitat: Mostly occurs on coasts and estuaries, less frequently inland freshwater wetlands (Geering et al. 2007).</p> <p>Distribution: A summer migrant from the northern hemisphere; some over-winter in Australia. Mostly widespread around the northern</p>	<p>LOW</p>

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Australian coast, less common in the south, with only a few inland records (Garnett et al. 2011), associated with wetlands or waterbodies.</p>	<ul style="list-style-type: none"> • No recent records in the region, only one previous record from Lake Woods (1993). As such, Lake Woods is considered as a suitable/potential stopover location for the species. • No records within the project area. • Preferred habitat does not occur within the project area; however, it is possible that the larger swamps or drainage depressions within the project area could be suitable for short term stop-overs. • May be observed as a flyover / in transit at both project area due to proximity to Lake Woods.
<p>Geering, A., Agnew, L. and Harding, S. (2007). <i>Shorebirds of Australia</i>. CSIRO Publishing, Collingwood, Australia.</p> <p>Garnett, S.T., Szabo, J.K. and Dutton, G. (2011). <i>The Action Plan for Australian Birds 2010</i>. CSIRO Publishing, Collingwood, Australia.</p> <p>Ward, S. (2012). <i>Threatened Species of the Northern Territory – Curlew Sandpiper - Calidris ferruginea</i>. Northern Territory Department of Environment and Natural Resources. https://nt.gov.au/__data/assets/pdf_file/0005/206348/curlew-sandpiper.pdf [Accessed 23 September 2024].</p>				
<p>Greater Sand Plover <i>Charadrius leschenaultii</i></p>	VU MIG	VU	<p>Habitat: Mostly coasts and estuaries with intertidal sand and mudflats – roosting on nearby beaches and rocky shores. Occasionally salt lakes, brackish swamps and shallow freshwater wetlands (DoE 2017).</p> <p>Distribution: A summer migrant from the northern hemisphere; some birds remain in Australia during the winter. Widespread around the Australian coast, less common in the south and inland. In the NT, recorded from most of the coastline (Garnett al. 2011).</p>	<p>LOW</p> <ul style="list-style-type: none"> • No recent records in the region. • Preferred habitat does not occur within the project area. It is possible that large swamps or drainage depressions – if inundated – within the project area could be suitable for short term stop-overs • May be observed as a flyover / in transit at both project area due to proximity to Lake Woods.
<p>Department of the Environment (2017). <i>Charadrius leschenaultii</i> — Greater Sand Plover, Large Sand Plover. Species Profile and Threats Database, Department of the Environment, Canberra. [online] Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=877 [Accessed 1 May 2018].</p> <p>Garnett, S.T., Szabo, J.K. and Dutton, G. (2011). <i>The Action Plan for Australian Birds 2010</i>. CSIRO Publishing. Collingwood, Australia.</p>				
<p>Black-tailed Godwit <i>Limosa limosa</i></p>	EN MIG	NT	<p>Habitat: Primarily coastal, most commonly found in sheltered bays, estuaries and lagoons with large intertidal mudflats or sandflats, or spits and banks of mud, sand or shell-grit; occasionally recorded on rocky coasts or coral islets. Also found in shallow and sparsely vegetated, near-coastal, wetlands; such as saltmarsh, saltflats, river pools, swamps, lagoons and floodplains. There are a few inland records, around shallow, freshwater and saline lakes, swamps, dams and bore-overflows. Use lagoons in sewage farms and saltworks (Higgins & Davies 1996).</p>	<p>LOW</p> <ul style="list-style-type: none"> • Records from Lake Woods (most recent record is from 2006). • Preferred habitat does not occur within the project area. It is possible that large swamps or drainage depressions – if inundated – within the project area could be suitable for short term stop-overs

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Distribution: A summer migrant from the northern hemisphere; some birds remain in Australia during the winter. Widespread around the Australian coast, the largest populations are found on the north coast between Darwin and Weipa (Watkins 1993).</p>	<ul style="list-style-type: none"> • May be observed as a flyover / in transit at both project area due to proximity to Lake Woods.
<p>Higgins, P.J. & S.J.J.F. Davies, eds (1996). Handbook of Australian, New Zealand and Antarctic Birds. Volume Three - Snipe to Pigeons. Melbourne, Victoria: Oxford University Press. Watkins, D. (1993). A national plan for shorebird conservation in Australia. RAOU Report Series. 90.</p>				
<p>Common Greenshank <i>Tringa nebularia</i></p>	EN MIG	LC	<p>Habitat: Found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. Occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons; recorded less often in round tidal pools, rock-flats and rock platforms. Use both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and saltflats. Will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores.</p> <p>Distribution: A summer migrant from the northern hemisphere; some birds remain in Australia during the winter. Sparsely scattered through most of the Northern Territory, including occasional records in the Tanami Desert and records from Birrindudu Waterhole in the north-east to Lake Woods, Lake Sylvester and the Barkly Tableland in central NT (Higgins & Davies 1996).</p>	<p>LOW</p> <ul style="list-style-type: none"> • Recent records (2023) of the species at Lake Woods. • Preferred habitat does not occur within the project area. It is possible that large swamps or drainage depressions – if inundated – within the project area could be suitable for short term stop-overs • The species may be observed as a flyover / in transit at both project area due to proximity to Lake Woods.
<p>Higgins, P.J. & S.J.J.F. Davies, eds (1996). Handbook of Australian, New Zealand and Antarctic Birds. Volume Three - Snipe to Pigeons. Melbourne, Victoria: Oxford University Press.</p>				
<p>Masked Owl (northern subspecies) <i>Tyto novaehollandiae kimberli</i></p>	VU	VU	<p>Habitat: Mainly in <i>Eucalyptus</i> tall open forests (especially those dominated by <i>Eucalyptus miniata</i> and <i>E. tetradonta</i>), but also roosts in monsoon rainforests and forages in more open vegetation types, including grasslands (Woinarski & Ward 2012). Usually nests in tree hollows, within patches of closed forest (Garnett et al. 2011). Little else known about the subspecies, but the species in general is resident in pairs within a territory up to 3,000 hectares (Debus 2009). Nest in large hollows with an entrance more than 20 cm wide and that is greater than 10 m above the ground (Debus 2009). Breeding poorly known, but thought to occur between March and October (DEWHA 2010).</p> <p>Distribution: Poorly known, with few records from across a broad range in northern Australia. In the NT, records from the Top End,</p>	<p>NONE</p> <ul style="list-style-type: none"> • The species is not known to occur in the region. • The project area is outside of the species' known distribution (restricted to Top End). • Vegetation datasets indicate that tree species known to be used for nesting purposes do not occur within or surrounding the project area. Therefore, it is considered unlikely that the species will be present.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			Kakadu, Coburg Peninsula (majority of records) and south-west Gulf country (Woinarski & Ward 2012). *Groote Eylandt	
<p>Garnett, S.T., Szabo, J.K. and Dutson, G. (2011). The Action Plan for Australian Birds 2010. CSIRO Publishing. Collingwood, Australia.</p> <p>Debus, S.J.S. (2009) The owls of australia: A field guide to australian night birds. Canterbury, N.S.W.: Envirobook.</p> <p>Woinarski, J.C.Z. and Ward, S. (2012). <i>Threatened Species of the Northern Territory - Masked Owl (north Australian mainland subspecies) - Tyto novaehollandiae kimberli</i>. Northern Territory Department of Environment, Parks and Water Security (DEPWS). [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0019/206362/masked-owl-northern-mainland.pdf [Accessed 29 September 2024].</p> <p>Department of the Environment, Water, Heritage and the Arts (DEWHA) (2010). Survey Guidelines for Australia's Threatened Birds. EPBC Act survey guidelines 6.2. Canberra, ACT: DEWHA. Available from: http://www.environment.gov.au/epbc/publications/threatened-birds.html. [Accessed 29 September 2024]</p>				
Australian Painted Snipe <i>Rostratula australis</i>	EN	EN	<p>Habitat: Fringes of permanent and temporary wetlands, swamps and inundated grasslands (Taylor et al. 2013).</p> <p>Distribution: Nomadic and scattered across Australia with no predictable occurrence (Rogers 2001), but could occur at any wetland or inundated grassland across its distribution, including nearly all of the NT and Qld (Garnett et al. 2011).</p>	<p>LOW</p> <ul style="list-style-type: none"> • There are previous records from Lake Woods (in 1993). • There are no records within the project area. • The ephemeral swamps and drainage depressions within the project area could be suitable habitat for the species in high rain fall seasons.
<p>Garnett, S.T., Szabo, J.K. and Dutson, G. (2011). <i>The Action Plan for Australian Birds 2010</i>. CSIRO Publishing. Collingwood, Australia.</p> <p>Rogers, D. (2001). Painted Snipe. <i>Wingspan</i>, Vol. 11 (No. 4), pp. 6-7.</p> <p>Taylor, R., Chatto, R. and Woinarski, J.C.Z. (2013). <i>Threatened Species of the Northern Territory - Australian painted snipe - Rostratula australis</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0018/206361/australian-painted-snipe.pdf [Accessed 29 September 2024].</p>				
MAMMALS				
Northern Quoll <i>Dasyurus hallucatus</i>	EN	CR	<p>Habitat: Wide range of habitats, but since the arrival of Cane Toads generally restricted to the most suitable habitats which are rocky upland areas with numerous crevices and rock piles (Van Dam et al. 2002). Prime habitat in the NT consists of rocky sandstone escarpments and outliers (Braithwaite & Griffiths 1994). Home range varies from 35 to 100 ha (Oakwood 2002). Breeding occurs in May and June, with male die-off occurring shortly afterwards (Oakwood 2000).</p> <p>Distribution: Historically occurred in the NT from Borroloola in the south-east as far west as the NT/WA border (Woinarski et al. 2007), extending into the Kimberley and Pilbara regions of WA. Dramatic range contraction and population crash associated with Cane Toad invasion. Now occurs across northern Australia in five regional populations – including the Top End in the NT.</p>	<p>NONE</p> <ul style="list-style-type: none"> • The species is not known to occur in the region. • Suitable habitat for the species is not expected to occur within the project area.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Braithwaite, R.W. and Griffiths, A.D. (1994). Demographic variation and range contraction in the Northern Quoll, <i>Dasyurus hallucatus</i> (Marsupialia: Dasyuridae). <i>Wildlife Research</i>, Vol. 21, pp. 203-218.</p> <p>Oakwood, M. (2000). Reproduction and demography of the northern quoll, <i>Dasyurus hallucatus</i>, in the lowland savanna of northern Australia. <i>Australian Journal of Zoology</i>. 48:519-539.</p> <p>Oakwood, M. (2002). Spatial and social organization of a carnivorous marsupial, <i>Dasyurus hallucatus</i>. <i>Journal of Zoology</i>, London. 257:237-248.</p> <p>Van Dam, R.A., Walden, D.J. and Begg, G.W. (2002). <i>A preliminary risk assessment of cane toads in Kakadu National Park</i>. Supervising Scientist Report 164, Darwin, Northern Territory.</p> <p>Woinarski, J.C.Z., Rankmore, B.R., Fisher, A. and Milne, D. (2007). <i>The natural occurrence of northern quolls Dasyurus hallucatus on islands of the Northern Territory: assessment of refuges from the threat posed by cane toads Bufo marinus</i>. Report to Natural Heritage Trust.</p>	
Greater Bilby <i>Macrotis lagotis</i>	VU	VU	<p>Habitat: In the NT, occurs in hummock grasslands on sandy soils with a preference for palaeo-drainage lines (Southgate 1990). Has large foraging area and will move home range in search for food (Johnson 2008).</p> <p>Distribution: Historically widespread in arid Australia. Currently confined to arid WA, the Tanami Desert in the NT and south-western Qld (Woinarski et al. 2014).</p>	<p>HIGH</p> <ul style="list-style-type: none"> Known to occur within project area; and suitable habitat is present within the Redsan Land System and Desert Dune fields.
			<p>Johnson, K. (2008). Bilby <i>Macrotis lagotis</i>. In: Van Dyck, S. and Strahan, R. (eds.). <i>Mammals of Australia</i>. Third Edition. Reed New Holland, Queensland Government, Queensland Museum: pp. 191-193.</p> <p>Southgate, R. (1990). Habitat and diet of the greater bilby <i>Macrotis lagotis</i> Reid (Marsupalia: Peramelidae). In: Seebeck et al. (eds.). <i>Bandicoots and Bilbies</i>. Surrey Beatty & Sons, Sydney, NSW.</p> <p>Woinarski, J., Burbidge, A. and Harrison, P. (2014). <i>The Action Plan for Australian Mammals 2012</i>. CSIRO Publishing: pp. 203-205.</p>	
Golden-backed Tree-rat <i>Mesembriomys macrurus</i>	-	CR	<p>Habitat: In the NT, little known of the ecology apart that all three records were from riverine vegetation. In the Kimberley, known to occur in open Eucalypt forests with tussock grass understorey, rainforest patches, sandstone screes, beaches, and black soil plains (Woinarski et al. 2012).</p> <p>Distribution: Historically, known to have occurred in three localities in the NT (Parker 1973) with no new records in the last 30 years. In 1993, reportedly spotted in Kakadu National Park; however, further surveys of suitable habitats in the NT failed to locate the species (Lee 1995). Now only known to occur in some areas of the north-western Kimberley and associated offshore islands (Palmer et al. 2003).</p>	<p>NONE</p> <ul style="list-style-type: none"> Not known to occur in the region. Suitable habitat is not present within the project area.
			<p>Lee, A.K. (1995). <i>The Action Plan for Australian Rodents</i>. Australian Nature Conservation Agency, Endangered Species Program, Canberra.</p> <p>Palmer, C., Taylor, R. and Burbidge, A. (2003). <i>Recovery plan for the Golden Bandicoot Isoodon auratus and golden-backed tree-rat Mesembriomys macrurus 2004-2009</i>. Northern Territory Department of Infrastructure Planning and Environment, Darwin.</p> <p>Parker, S.A. (1973). An annotated checklist of the native land mammals of the Northern Territory. <i>Records of the South Australian Museum</i>, Vol. 16, pp. 1-57.</p> <p>Woinarski, J.C.Z., Palmer, C. and Hill, B. (2012). <i>Threatened Species of the Northern Territory - Golden-backed tree-rat - Mesembriomys macrurus</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0006/205476/golden-backed-tree-rat.pdf [Accessed 1 May 2018].</p>	

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
Central Australian Rock-wallaby <i>Petrogale lateralis centralis</i>	VU	NT	Habitat: Upland rocky areas with associated steep slopes (Pavey 2006). Heavily weathered outcrops, caves, cliffs and rock piles provide suitable habitat as daytime shelter (Woinarski et.al. 2014). Distribution: In the NT, mostly found in the MacDonnell Ranges, but also occurs throughout the arid southern end of the NT (Pavey 2006) and the Davenport and Murchison Ranges.	NONE <ul style="list-style-type: none"> • Not known to occur in the region, including the Ashburton Range. • Suitable habitat is not present within project area. The isolated rocky hills within this project area are not considered to be of suitable size and structure to support the species.
			Pavey, C. (2006). <i>Threatened Species of the Northern Territory - Black-footed Rock-Wallaby - Petrogale lateralis</i> . Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0003/376122/black-footed-rock-wallaby.pdf [Accessed 23 September 2024] Woinarski, J., Burbidge, A. and Harrison, P. (2014). <i>The Action Plan for Australian Mammals 2012</i> . CSIRO Publishing: pp. 403-405.	
Northern Brush-tailed Phascogale <i>Phascogale pirata</i>	VU	EN	Habitat: No detailed studies, but ecology is probably similar to that reported for phascogales in southern Australia (Rhind 1998). Most records are from tall open forests dominated by <i>Eucalyptus miniata</i> and <i>E. tetradonta</i> (Rhind et al. 2008). Brush-tailed Phascogales are primarily arboreal and seldom feed on the ground. Geyle et al (2020) detected <i>P. pirata</i> using camera traps on Melville Island and found detection is most likely on large (DBH >41.5cm) <i>Eucalyptus tetradonta</i> trees during the wet season. Distribution: Probably occurs naturally in low densities (Woinarski et al. 2014). Very few records exist; reported from West Island, east Arnhem Land, Coburg Peninsula, Kakadu, Litchfield and the Tiwi Islands. In the last 10 years only recorded from Kakadu, Coburg Peninsula and the Tiwi Islands, despite many extensive wildlife surveys across regions of the Top End during that time (Woinarski et al. 2014).	NONE <ul style="list-style-type: none"> • Not known to occur in the region. • Suitable habitat is not present within the project area.
			Geyle, H.M., Woolley, L-A., Davies, H.F., Woinarski, J.C.Z. and Murphy, B.P. (2020). Targeted sampling successfully detects the cryptic and declining arboreal marsupial (<i>Phascogale pirata</i>) in northern Australia. <i>Pacific Conservation Biology</i> . DOI: 10.1071/PC20008. Rhind, S.G. (1998). <i>Ecology of the brush-tailed phascogale in jarrah forest of south-western Australia</i> . PhD thesis, Murdoch University, Perth, Western Australia. Rhind, S.G., Woinarski, J. and Aplin, K.P. (2008). Brush-tailed Phascogale. In: Van Dyck, S. and Strahan, R. (eds). <i>The Mammals of Australia</i> . Reed New Holland, Chatswood, NSW. Woinarski, J., Burbidge, A. and Harrison, P. (2014). <i>The Action Plan for Australian Mammals 2012</i> . CSIRO Publishing: pp. 125-127.	
Pale Field-rat <i>Rattus tunneyi</i>	-	VU	Habitat: Historically occurred in a wide range of habitats, but now primarily in dense vegetation along creeks (Aplin et al. 2008). Fire regime seems to have little effect on population numbers; instead, the level of groundwater irrigating the riparian system and, to a lesser extent, current rainfall have a much stronger influence (Braithwaite & Griffiths 1996).	NONE <ul style="list-style-type: none"> • The species is not known to occur in the region. • Historic records in the region only, the species is now only known to occur in Top End habitats.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Distribution: Higher rainfall areas of northern Australia, extending from Kimberley in WA to south-eastern Qld, including the Top End of the NT (Cole & Woinarski 2002, Braithwaite & Griffiths 1996). Previously widespread and patchily abundant, particularly in the north-west of the Top End, the Pale Field-rat appears to have declined in lower rainfall areas (Woinarski 2000).</p>	
<p>Aplin, K., Braithwaite, R. and Baverstock, P. (2008). Pale Field-rat: <i>Rattus tunneyi</i>. In: Van Dyck, S. and Strahan, R. (eds.). <i>The Mammals of Australia (3rd Edition)</i>. Reed New Holland, Sydney, NSW.</p> <p>Braithwaite, R. and Griffiths, A. (1996). The paradox of <i>Rattus tunneyi</i>: endangerment of a native pest. <i>Wildlife Research</i>, Vol. 23, pp. 1-21.</p> <p>Cole, J. and Woinarski, J. (2002). <i>Field Guide to the Rodents and Dasyurids of the Northern Territory</i>. Surrey Beatty & Sons, Chipping Norton, NSW.</p> <p>Woinarski, J.C.Z. (2000). The conservation status of rodents in the monsoonal tropics of the Northern Territory. <i>Wildlife Research</i>, Vol. 27, pp. 421-435.</p>				
Northern Brushtail Possum <i>Trichosurus vulpecula arnhemensis</i>	VU	NT	<p>Habitat: In Northern Australia, mainly tall Eucalypt open forests with large, hollow-bearing trees, some mangrove communities, rainforests and semi-urban areas (TSSC 2001). Found in higher abundance when shrub density is high, particularly shrubs that bear large, fleshy fruits (Stobo-Wilson 2019. Kerle 1985, Friend et al 1985).</p> <p>Distribution: Occurs from the Gulf of Carpentaria, NT to the Kimberley, WA. Also occurs on many NT islands, but not on any WA islands. Within its range, distribution is patchy (TSSC 2021). Recently, there have been broad-scale losses and reduction in extensive areas of the NT range (Woinarski 2004; Woinarski et al. 2011; Gibson & McKenzie 2012; Ziembicki et al. 2013; Stobo-Wilson et al. 2019).</p>	<p>NONE</p> <ul style="list-style-type: none"> • The species is not known to occur in the region. • Historic records in the region only. In the Northern Territory, this species is now only known to occur in Top End.
	<p>Friend G & Taylor J (1985) Habitat preferences of small mammals in tropical open-forest of the Northern Territory. <i>Australian Journal of Ecology</i> 10, 173-185.</p> <p>Gibson L & McKenzie N (2012) Occurrence of non-volant mammals on islands along the Kimberley coast of Western Australia. <i>Records of the Western Australian Museum supplement</i> 81, 15-39</p> <p>Kerle J (1985) Habitat preference and diet of the northern brushtail possum <i>Trichosurus arnhemensis</i> in the Alligator Rivers Region, N.T. <i>Proceedings of the Ecological Society of Australia</i> 13, 161-176.</p> <p>Kerle, J., Foulkes, J., Kimber, R. and Papenfus, D. (1992). The decline of the brushtail possum, <i>Trichosurus vulpecula</i> (Kerr 1798), in arid Australia. <i>Rangelands Journal</i>, Vol. 14, pp. 107-127.</p> <p>Stobo-Wilson A, Murphy B, & Cremona T (2019) Contrasting patterns of decline in two arboreal marsupials from Northern Australia. <i>Biodiversity Conservation</i> 28, 2951</p> <p>Threatened Species Scientific Committee (2021). Conservation Advice Trichosurus vulpecula arnhemensis Northern Brushtail Possum. Canberra: Department of Agriculture, Water and the Environment. Available from http://www.environment.gov.au/biodiversity/threatened/species/pubs/83091-conservation-advice-11052021.pdf</p> <p>Woinarski, J.C.Z. (2004). In a land with few possums, even the common are rare: ecology, conservation and management of possums in the Northern Territory. In: Goldingay, R. and Jackson, S. (eds.). <i>The biology of Australian possums and gliding possums</i>. Surrey Beatty & Sons, Sydney: pp.51- 62.</p> <p>Woinarski J, Ward S, Mahney T, Bradley J, Brennan K, Ziembicki M & Fisher A (2011) The mammal fauna of the Sir Edward Pellew Islands, Northern Territory: refuge and death-trap. <i>Wildlife Research</i> 38, 307-322.</p> <p>Ziembicki M, Woinarski J & Mackey B (2013) Evaluating the status of species using Indigenous knowledge: novel evidence for major native mammal declines in northern Australia. <i>Biological Conservation</i> 157, 78-92.</p>			
Common Brushtail Possum (Central)	-	EN	<p>Habitat: In Central Australia, riverine habitat that is close to rocky outcrops and moist gullies within the ranges or rocky slopes (Kerle et al. 1992). Habitat occurs on various geological substrates but is</p>	<p>NONE</p> <ul style="list-style-type: none"> • Not known to persist in the region.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
Australian subspecies) <i>Trichosurus vulpecula vulpecula</i>			characterised by a diverse association of fire-sensitive plant species (Pavey and Ward 2012). Distribution: Occurs in isolated populations in southern NT. Most common in the southern NT within the MacDonalld Ranges (Pavey and Ward 2012). Formerly had a much more extensive distribution in the NT, subspecies are known to occur on many Northern islands (TSSC, 2021). Common throughout much of the continent, including SA, Victoria, NSW, southern and south-western Qld, and much of WA (Pavey & Ward 2012).	<ul style="list-style-type: none"> • Historic records in the region only. • More likely to occur in larger ranges. The rocky hill habitat within the project area does not support refugia habitat essential for this species.
Threatened Species Scientific Committee (2021). Conservation Advice <i>Trichosurus vulpecula arnhemensis</i> Northern Brushtail Possum. Canberra: Department of Agriculture, Water and the Environment. Available from http://www.environment.gov.au/biodiversity/threatened/species/pubs/83091-conservation-advice-11052021.pdf Kerle, J., Foulkes, J., Kimber, R. and Papenfus, D. (1992). The decline of the brushtail possum, <i>Trichosurus vulpecula</i> (Kerr 1798), in arid Australia. <i>Rangelands Journal</i> , Vol. 14, pp. 107-127. Pavey, C. and Ward, S. (2012). <i>Threatened Species of the Northern Territory - Common Brushtail Possum - Trichosurus vulpecula vulpecula</i> . Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0019/205525/common-brushtail-possum.pdf [Accessed 1 May 2018]. Woinarski, J.C.Z. (2004). In a land with few possums, even the common are rare: ecology, conservation and management of possums in the Northern Territory. In: Goldingay, R. and Jackson, S. (eds.). <i>The biology of Australian possums and gliding possums</i> . Surrey Beatty & Sons, Sydney: pp.51- 62.				
Ghost Bat <i>Macroderma gigas</i>	VU	NT	Habitat: Nocturnal, roosts in caves in tropical savanna woodlands and north Qld. rainforests (TSSC 2016). Permanent roost sites are generally deep natural caves or disused mines (TSSC 2016). Move between a number of caves seasonally or as dictated by weather conditions, and require a range of cave sites (Hutson et al. 2001). Distribution: Geographically-disjunct colonies occur in the Pilbara and Kimberley in WA, NT north of approximately 17° latitude (including Elcho Island and Groote Eylandt), the Gulf of Carpentaria, eastern Qld from Cape York to near Rockhampton, and western Qld (including Riversleigh and Camooweal districts) (TSSC 2016). Distribution likely influenced by the availability of suitable caves and mines for roost sites (Ward & Milne 2016).	NONE <ul style="list-style-type: none"> • Not known to occur in the region. • Not recorded in the southern NT since the early 1960's (Ward & Milne 2016) and is presumed to be regionally extinct.
Hutson, A. M., Mickleburgh, S. P. & Racey, P. A. (2001) Microchiropteran Bats - Global Status Survey and Conservation Action Plan. IUCN/SSC Chiroptera Specialist Group, Gland, Switzerland and Cambridge, U.K. Milne, D. and Ward, S. (2016). <i>Threatened Species of the Northern Territory – Ghost Bat - Macroderma gigas</i> . Northern Territory Department of Environment and Natural Resource. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0010/376138/ghost-bat.pdf [Accessed 1 May 2018]. Threatened Species Scientific Committee (2016). <i>Approved Conservation Advice for Macroderma gigas (ghost bat)</i> . Canberra: Department of the Environment. Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/174-conservation-advice-05052016.pdf [Accessed 1 May 2018]. Worthington Wilmer, J. (2012). Ghost Bat <i>Macroderma gigas</i> . In: Curtis et al. (eds.). <i>Queensland's Threatened Animals</i> . CSIRO, Canberra: pp. 382-383.				

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
Bare-rumped Sheath-tailed Bat <i>Saccolaimus saccolaimus nudicluniatus</i>	VU	NT	<p>Habitat: In the NT, specimens have been collected from Pandanus woodland fringing the sedgelands of the South Alligator River, and Eucalypt tall open forests (Friend & Braithwaite 1986; Churchill 1998). Most records occur within near-coastal habitats with one recent exception (Jasper Gorge) 150 km inland (Woinarski et al. 2014). Rests colonially in tree hollows (DEPWS 2021). In QLD known from coastal lowlands, including eucalypt woodlands and rainforests (DEPWS 2021).</p> <p>Distribution: Widely distributed from India through south-east Asia to the Solomon Islands, with few records across north-eastern Qld and the NT, suggesting a fragmented distribution. In the NT, infrequently recorded and sparsely scattered across the Top End (DEPWS 2021). The Australian population is described as the subspecies <i>S. s. nudicluniatus</i> (DENR 2020), however the taxonomy of the species remains unresolved (DEPWS 2021).</p>	<p>NONE</p> <ul style="list-style-type: none"> • Not known to occur in the region. • Only historic records in the wider region (greater than 150 km to the north) • Vegetation types within and surrounding the project area are not known to support suitable roost habitat for the species.
			<p>Churchill, S. (1998). <i>Australian Bats</i>. Reed New Holland, Sydney.</p> <p>Northern Territory Department of Environment and Natural Resources (DENR) (2020) Classification of Wildlife. Northern Territory Department of Environment and Natural Resources. [Available online] at: https://depws.nt.gov.au/_data/assets/pdf_file/0006/874302/proposed-new-classifications-schedule1-animals-schedule2-plants.pdf</p> <p>Department of Environment, Parks and Water Security (DEPWS) (2021). <i>Threatened Species of the Northern Territory - Bare-rumped Sheath-tail Bat - Saccolaimus saccolaimus</i>. Northern Territory Department of Environment, Parks and Water Security. [Available online] at: https://nt.gov.au/_data/assets/pdf_file/0007/376117/bare-rumped-sheath-tail-bat.pdf</p> <p>Friend, G.R. and Braithwaite, R.W. (1986). Bat fauna of Kakadu National Park, Northern Territory. <i>Australian Mammalogy</i>, Vol. 9, pp. 43-52.</p> <p>Woinarski, J., Burbidge, A. and Harrison, P. (2014). <i>The Action Plan for Australian Mammals 2012</i>. CSIRO Publishing: pp. 511-514.</p>	
REPTILES				
Plains Death Adder <i>Acanthophis hawkei</i>	VU	VU	<p>Habitat: Cracking soil floodplains in the Top End and cracking black soil plains inland (DEPWS 2021, Webb et al. 2002).</p> <p>Distribution: Habitat mapping suggests the potential geographic range extends from western Qld, across the sub-coastal north of the NT to the north-eastern Kimberley of WA. Fragmented populations occur in the Mitchell Grass Downs of western Qld, the Barkly Tablelands on the NT/Qld border and east of Darwin (Fogg Dam) in the NT (TSSC 2012; Wuster et al. 2005). Susceptible to ingesting toxic Cane Toads (Phillips et al. 2009).</p>	<p>NONE</p> <ul style="list-style-type: none"> • Project area is outside the species' known distribution • Suitable habitat is not present within the project area.
			<p>Department of Environment, Parks and Water Security (DEPWS) (2021). <i>Threatened species of the Northern Territory – Plains death adder Acanthophis hawkei</i>. Northern Territory Department of Environment, Parks and Water Security. https://nt.gov.au/_data/assets/pdf_file/0014/206402/plains-death-adder.pdf</p> <p>Phillips, B.L., Greenlees, M.J., Brown, G.P. and Shine R (2010). Predator behaviour and morphology mediates the impact of an invasive species: cane toads and death adders in Australia. <i>Animal Conservation</i>, Vol. 13, pp. 53-59.</p>	

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Webb, J.K., Christian, K.A. and Fisher, P. (2002). Fast growth and early maturation in a viviparous sit-and-wait predator, the northern death adder (<i>Acanthophis praelongus</i>) from tropical Australia. <i>Journal of Herpetology</i>, Vol. 36, no. 3, pp. 505-509.</p> <p>Wuster, W., Dumbrell, A.J., Hay, C., Pook, C.E., Williams, D.J. and Fry, B.G. (2005). Snakes across the Strait: trans-Torresian phylogeographic relationships in three genera of Australasian snakes (Serpentes: Elapidae: <i>Acanthophis</i>, <i>Oxyuranus</i>, and <i>Pseudechis</i>). <i>Molecular Phylogenetics and Evolution</i>, Vol. 34. pp. 1-14.</p> <p>Threatened Species Scientific Committee (2015). <i>Approved Conservation Advice – Acanthophis hawkei – Plains Death Adder</i>. Canberra: Department of the Environment. [online] Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/83821-conservation-advice.pdf [Accessed 23 September 2024].</p>	
<p>Northern Blue-tongued Skink <i>Tiliqua scincoides intermedia</i></p>	CR	DD	<p>Habitat: Occurs in many varied ecosystems and vegetation types, though tends to avoid closed-canopy forest (Jolly et al. 2023). Most – but not all – detections have occurred near seasonal or permanent water (DCCEEW 2023). Although wide ranging, individuals typically spend 95% of their time in small patches of dense vegetation that provide cool, shaded and damp conditions within an otherwise inhospitable landscape (DCCEEW 2023).</p> <p>Distribution: Throughout the Top End, south to about Elliott, including islands off the Top End coast (DCCEEW). Once common in suburban Darwin. Very few records exist in the NT, and it appears to be quite uncommon. Cane Toads have caused significant declines across northern Australia such that species is now rarely encountered due to cane toad impacts (Jolly et al. 2023).</p>	<p>LOW</p> <ul style="list-style-type: none"> • Project area falls outside the known distribution for the species. • Recent records (from 2024) approximately 150 km north of the project area. • If present within the project area, they are more likely to occur in wetter, moist areas associated with ephemeral drainages depressions, swamps and waterways.
			<p>Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2023). <i>Conservation Advice for Tiliqua scincoides intermedia (northern blue-tongue skink)</i>. Australian Government Department of Climate Change, Energy, the Environment and Water. Available online: https://www.environment.gov.au/biodiversity/threatened/species/pubs/89838-conservation-advice-21122023.pdf</p> <p>Jolly, C., Schembri, B., Macdonald, S. (2023), <i>Field Guide to the Reptiles of the Northern Territory</i>. CSIRO Publishing, Collingwood, Victoria.</p>	
<p>Yellow-spotted (or Floodplain) Monitor <i>Varanus panoptes</i></p>	-	VU	<p>Habitat: Broad range of habitats from coastal beaches to savannah woodlands (Christian 2004). Also common throughout floodplains grasslands and a variety of native woodlands (Ward et al. 2012).</p> <p>Distribution: Across northern Australia from the Kimberley in WA to Cape York Peninsula, and southwards through most of Qld. In the NT, recorded across most of the Top End and the Gulf Region (Christian 2004). Highly susceptible to Cane Toad poisoning (Ujvari & Madsen 2009) and has experienced significant declines (Doody et al. 2009).</p>	<p>MODERATE</p> <ul style="list-style-type: none"> • This species is known to occur in the region (including several records in the vicinity of Lake Woods); however, there are no records within the project area. • The project area is considered to support suitable habitat for the species where alluvial depressions and alluvial plains are present. The species may also utilise parts of the desert sandplains that fringe the alluvial landforms.

Name	Status		Species background information	Likelihood of occurrence assessment (within project area)
	Cth	NT		
			<p>Christian, K. (2004). <i>Varanus panoptes</i>. In: Pianka et al. (eds). <i>Varanoid lizards of the world</i>. Indiana University Press, Bloomington, Indianapolis.</p> <p>Doody, J.S., Green, B., Rhind, D., Castellano, C., Sims, R. and Robinson, T. (2009). Population-level declines in Australian predators caused by an invasive species. <i>Animal Conservation</i>, Vol. 12, pp. 46-53.</p> <p>Ujvari, B. & Madsen, T. (2009). Increased mortality of naïve varanid lizards after the invasion of non-native cane toads (<i>Bufo marinus</i>). <i>Herpetological Conservation and Biology</i>, Vol. 4, pp. 248-251.</p> <p>Ward, S., Woinarski, J., Griffiths, T. & McKay, L. (2012). <i>Threatened Species of the Northern Territory - Yellow Spotted Monitor, Northern Sand Goanna, Floodplain Monitor - Varanus panoptes</i>. Northern Territory Department of Environment and Natural Resources. [online] Available at: https://nt.gov.au/_data/assets/pdf_file/0006/206466/floodplain-monitor.pdf [Accessed 23 September 2024].</p>	
FLORA				
Tassel Sedge <i>Carex fascicularis</i>	-	VU	<p>Habitat: Swampy areas and mesic/sub-coastal areas. Very little is known about the ecology of the NT population (DEPWS 2021).</p> <p>Distribution: Throughout Australia; common in south-eastern Australia. In the NT, confirmed specimens known from a single population located at Giles Yard Spring in the West MacDonnell Ranges (DEPWS 2021). One additional observation recorded in 2022 approximately 750 km north at Hayfield Station in Birdum (NTH 2024) has significantly expanded the potential range of the species in the NT.</p>	<p>LOW</p> <ul style="list-style-type: none"> • This species has potential to occur in swampy habitat present within the project area. However, the low number of occurrences in the NT indicates that it is unlikely that a population could occur within the project area. • The ephemeral nature of the swamps within the project area are likely to reduce habitat suitability for the species. • If present, the species would only be expected to occur in association with permanent or semi-permanent springs within the rocky hills / low ranges.
	<p>Department of Environment, Parks and Water Security (DEPWS). (2021). <i>Threatened Species of the Northern Territory - Carex fascicularis</i>. Northern Territory Department of Environment, Parks and Water Security https://nt.gov.au/_data/assets/pdf_file/0020/208424/carex-fascicularis.pdf</p> <p>Northern Territory Herbarium (NTH). (2024). <i>Carex fascicularis factsheet</i>. FloraNT - Northern Territory flora online. Department of Environment, Parks and Water Security. https://eflora.nt.gov.au/factsheet?id=1532</p>			

APPENDIX C PRELIMINARY LAND TYPE SITE DATA

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
339019	7977377	Aerial	Alluvial plain	Brown loam	Gentle	Sparse low woodland (Eucalyptus pruinosa, Corymbia opaca) over tussock grass	Absent/low
336823	7973358	Aerial	Alluvial plain	Brown loam	Flat	Sparse low woodland (Eucalyptus victrix) over tussock grass	Absent/low
334478	7970901	Aerial	Alluvial plain	Brown loam	Flat	Low open woodland (Corymbia opaca) over tussock grass	Absent/low
325312	7952911	Aerial	Alluvial plain	Brown loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass	Absent/low
337333	7968383	Aerial	Alluvial plain	Brown loam	Flat	Low open woodland (Eucalyptus victrix, Corymbia flavescens, C. opaca) over tussock grass	Absent/low
354585	7953964	Aerial	Alluvial plain	Brown loam	Flat	Open woodland over tussock grass	Absent/low
352976	7955134	Aerial	Alluvial plain	Brown loam	Gentle	Open woodland over tussock grass	Absent/low
351997	7954801	Aerial	Alluvial plain	Brown loam	Flat	Sparse woodland over tussock grass. Patchy Acacia lysiphloia	Absent/low
351971	7955642	Aerial	Alluvial plain	Brown loam	Flat	Open woodland (Corymbia flavescens) over tussock grass	Absent/low
1.#QNAN	nan	Aerial	Alluvial plain	Brown loam	Gentle	Open woodland over tussock grass	Absent/low
350250	7955363	Aerial	Alluvial plain	Brown loam	Flat	Open woodland over tussock grass	Absent/low
340044	7976066	Aerial	Alluvial plain	Brown loam	Gentle	Tussock grassland	Absent/low
338980	7975870	Aerial	Alluvial plain	Brown loam	Gentle	Tussock grassland, scattered low trees (Eucalyptus pruinosa)	Absent/low
342146	7973808	Aerial	Alluvial plain	Clay	Flat	Open clayey area, no vegetation	Absent/low
338980	7975138	Aerial	Alluvial plain	Brown loamy clay	Flat	Open woodland (Corymbia flavescens) over tussock grass	Absent/low
335625	7972825	Aerial	Alluvial plain	Brown loamy clay	Flat	Open woodland (Eucalyptus victrix) over tussock grass	Absent/low
333590	7975613	Aerial	Alluvial plain	Brown loamy clay	Flat	Open woodland (Eucalyptus victrix) over tussock grass	Absent/low
325405	7937801	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (Grevillea refracta and Acacia spp.)	Mod/high
325373	7931581	Aerial	Alluvial plain	Brown loam	Flat	Shrubland (Grevillea refracta)	Absent/low
325367	7932758	Aerial	Alluvial plain	Brown loam	Flat	Shrubland (Grevillea refracta)	Absent/low
326395	7937519	Aerial	Alluvial plain	Brown loam	Gentle	Shrubland (Grevillea refracta)	Absent/low
326301	7951843	Aerial	Alluvial plain	Brown loam	Flat	Open woodland (Corymbia opaca) over tussock grass and spinifex	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
329409	7943611	Aerial	Alluvial plain	Brown loam	Gentle	Scattered trees (<i>Corymbia flavescens</i>) over tussock grass and spinifex	Absent/low
330376	7942962	Aerial	Alluvial plain	Brown loam	Gentle	Scattered trees (<i>Corymbia flavescens</i>) over tussock grass and spinifex	Absent/low
333731	7958335	Aerial	Alluvial plain	Brown loam	Flat	Open Melaleuca shrubs over spinifex (likely <i>Triodia pungens</i>)	Absent/low
334852	7956943	Aerial	Alluvial plain	Brown loam	Flat	Open Melaleuca shrubs over spinifex (likely <i>Triodia pungens</i>) and tussock grass	Absent/low
335132	7958881	Aerial	Alluvial plain	Brown loam	Flat	Open Melaleuca shrubs over spinifex (likely <i>Triodia pungens</i>)	Absent/low
335858	7958220	Aerial	Alluvial plain	Brown loam	Flat	Open Melaleuca shrubs over spinifex (likely <i>Triodia pungens</i>)	Absent/low
335848	7957842	Aerial	Alluvial plain	Brown loam	Flat	Open Melaleuca shrubs over spinifex (likely <i>Triodia pungens</i>)	Absent/low
335893	7944739	Aerial	Alluvial plain	Brown loam	Gentle	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
335932	7935187	Aerial	Alluvial plain	Brown loam	Flat	Shrubland (<i>Grevillea refracta</i>)	Absent/low
337892	7941189	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
339261	7940635	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
340281	7942460	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over hummock grass (likely <i>Triodia pungens</i>) and tussock grass	Absent/low
340307	7941204	Aerial	Alluvial plain	Brown loam	Flat	Open Shrubland (<i>Grevillea refracta</i>)	Absent/low
341333	7940787	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
341191	7942102	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass; some large trees (<i>Corymbia flavescens</i>)	Absent/low
341329	7943230	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
342338	7941748	Aerial	Alluvial plain	Brown loam	Flat	Open shrubland (<i>Melaleuca</i> spp.) over hummock grass (likely <i>Triodia pungens</i>) and tussock grass	Absent/low
342347	7939733	Aerial	Alluvial plain	Brown loam	Flat	Open Shrubland (<i>Grevillea refracta</i>)	Absent/low
342439	7933790	Aerial	Alluvial plain	Brown loam	Gentle	Open shrubland (<i>Melaleuca</i> spp.) over hummock grass (likely <i>Triodia pungens</i>) and tussock grass	Absent/low
343457	7934437	Aerial	Alluvial plain	Brown loam	Flat	Open Shrubland (<i>Grevillea refracta</i>)	Absent/low
343745	7942073	Aerial	Alluvial plain	Brown loam	Gentle	Mixed grassland (tussocks and spinifex) with scattered trees (<i>Corymbia flavescens</i>)	Absent/low
345203	7942314	Aerial	Alluvial plain	Brown loam	Gentle	Low open woodland (<i>Eucalyptus victrix</i>) over tussock grass	Absent/low
345232	7943688	Aerial	Alluvial plain	Brown loam	Gentle	Open to scattered shrubs (<i>Melaleuca</i> spp.) over tussock grass	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
344781	7940930	Aerial	Alluvial plain	Brown loam	Gentle	Open to scattered shrubs (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
346274	7941354	Aerial	Alluvial plain	Brown loam	Flat	Tussock grassland with scattered trees (<i>Corymbia flavescens</i> , <i>Corymbia opaca</i>)	Absent/low
347263	7943728	Aerial	Alluvial plain	Brown loam	Gentle	Open low woodland (<i>Eucalyptus victrix</i>) over tussock grassland	Absent/low
347293	7940362	Aerial	Alluvial plain	Brown loam	Gentle	Tussock grassland with scattered trees (<i>Corymbia flavescens</i> , <i>Eucalyptus pruinosa</i> , <i>Melaleuca</i> sp.)	Absent/low
348267	7944381	Aerial	Alluvial plain	Brown loam	Gentle	Low open woodland (<i>Corymbia flavescens</i> , <i>Eucalyptus victrix</i>) over tussock grass	Absent/low
349468	7937387	Aerial	Alluvial plain	Brown loam	Flat	Tussock grassland with scattered trees (<i>Corymbia flavescens</i> , <i>Eucalyptus pruinosa</i>)	Absent/low
350615	7936988	Aerial	Alluvial plain	Brown loam	Flat	Very little vegetation. Short tussock grasses	Absent/low
351038	7942968	Aerial	Alluvial plain	Brown loam	Flat	Low open woodland (<i>Eucalyptus victrix</i>) over tussock grass	Absent/low
334555	7974072	Aerial	Alluvial plain	Brown loam	Gentle	Open woodland (<i>Eucalyptus victrix</i> , <i>Corymbia opaca</i> , <i>Hakea arborescens</i>) over tussock grass	Absent/low
334061	7956615	Ground	Alluvial plain	Dark orange loam	Flat	Sparse low shrubland (<i>Melaleuca</i> spp.) over tussock grass/forbs (<i>A. holathera</i> , <i>Bergia henschallii</i>)	Absent/low
338046	7943536	Ground	Alluvial plain	Brown loam	Flat	Sparse low shrubland (<i>Melaleuca</i> spp., <i>Grevillea refracta</i>) over tussock grass (<i>Eriachne obtusa</i>)	Absent/low
346906	7969747	Aerial	Creek line	Coarse river sand	Gentle	Woodland (<i>Eucalyptus camaldulensis</i>) with patchy <i>Acacia</i> shrubs over tussock grasses	Mod/high
341232	7973751	Ground	Creek line	Coarse river sand	Gentle	Woodland (<i>E. camaldulensis</i>) with patchy <i>A. difficilis</i> , <i>A. coleii</i> , <i>Hakea arborescens</i> over tussocks	Absent/low
329708	7941139	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (<i>Eucalyptus victrix</i> , <i>Corymbia flavescens</i>) over tussock grass	Absent/low
341184	7974500	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (<i>Corymbia flavescens</i>) over tussock grass	Absent/low
341177	7974339	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (<i>Eucalyptus victrix</i> , <i>Corymbia flavescens</i>) over tussock grass	Absent/low
335874	7965744	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (<i>Eucalyptus victrix</i>) over tussock grass	Absent/low
330347	7941092	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (<i>Eucalyptus victrix</i>) over tussock grass and sedges	Absent/low
342207	7942962	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (<i>Eucalyptus victrix</i>) over sedges	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
350709	7937015	Aerial	Ephemeral swamp	Clayey loam	Flat	Sedgeland and tussock grasses	Absent/low
351783	7943269	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass	Absent/low
354688	7933856	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass and sedges	Absent/low
355284	7936402	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix, Melaleuca spp.) over tussock grass and sedges	Absent/low
356202	7937279	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass and sedges	Absent/low
356442	7935212	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass and sedges	Absent/low
358863	7940764	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass and sedges	Absent/low
358915	7939838	Aerial	Ephemeral swamp	Clayey loam	Flat	Low open woodland (Eucalyptus victrix) over tussock grass and sedges	Absent/low
325155	7932748	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
325966	7932889	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
325784	7934219	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
325439	7935277	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
325536	7942275	Aerial	Laterite rise	Gravel	Low	Low patchy shrubland (Acacia hilliana) over spinifex	Mod/high
326150	7949127	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
326328	7947196	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
326581	7934093	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
327251	7941826	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex; with patches of Acacia lysiphloia	Mod/high
327549	7947839	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
327307	7948255	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
330236	7944989	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
330318	7945657	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
331916	7945229	Aerial	Laterite rise	Gravel	Low	Scattered low shrubland (Acacia hilliana) over spinifex	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
332409	7945791	Aerial	Laterite rise	Gravel	Low	Scattered Acacia hilliana low shrubland	Mod/high
333759	7943581	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
334838	7938881	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex	Mod/high
336096	7941738	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex; with patches of Acacia lysiphloia	Mod/high
337020	7935403	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high
336942	7941708	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high
338037	7936673	Aerial	Laterite rise	Gravel	Low	Scattered low shrubland (Acacia hilliana) over spinifex; with patches of Acacia monticola	Mod/high
337790	7935181	Aerial	Laterite rise	Gravel	Low	Scattered low shrubland (Acacia hilliana)	Mod/high
341618	7934457	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex; with patches of Acacia lysiphloia	Mod/high
341505	7935243	Aerial	Laterite rise	Gravel	Low	Scattered low shrubland (Acacia hilliana); with sparse trees (Corymbia opaca)	Mod/high
342407	7934162	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana) over spinifex; patches of Acacia monticola	Mod/high
347591	7939431	Aerial	Laterite rise	Gravel	Low	Scattered low shrubland (Acacia hilliana)	Mod/high
348932	7937960	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high
348782	7939968	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana); sparse small trees (Eucalyptus leucophloia)	Mod/high
349657	7939865	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana); sparse small trees (Eucalyptus leucophloia)	Mod/high
350666	7939769	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high
350589	7940381	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high
351988	7939296	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana); patches of Senna notabilis on edge	Mod/high
352989	7935412	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high
354304	7939902	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana); sparse small trees (Eucalyptus leucophloia, E. pruinosa)	Mod/high
355193	7940172	Aerial	Laterite rise	Gravel	Low	Low open shrubland (Acacia hilliana)	Mod/high
325742	7933254	Aerial	Laterite rise	Gravel	Low	Low shrubland (Acacia hilliana)	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
326374	7945244	Aerial	Laterite rise	Gravel	Low	Scattered low shrubland (<i>Acacia hilliana</i>) over spinifex	Mod/high
326399	7946192	Aerial	Laterite rise	Gravel	Low	Patchy shrubland (<i>Acacia lysiphloia</i>) over spinifex; scattered small trees (<i>Corymbia opaca</i>)	Mod/high
331532	7944294	Aerial	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex	Mod/high
332494	7944430	Aerial	Laterite rise	Gravel	Low	Low open (to patchy) shrubland (<i>Acacia hilliana</i>) over spinifex; scattered Mallee	Mod/high
332509	7943928	Aerial	Laterite rise	Gravel	Low	Low open (to patchy) shrubland (<i>Acacia hilliana</i>) over spinifex; scattered Mallee	Mod/high
332502	7944968	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>) over spinifex; scattered Mallee	Mod/high
333777	7942624	Aerial	Laterite rise	Gravel	Low	Low open shrubs (<i>Acacia hilliana</i>) and scattered trees (<i>Eucalyptus leucophloia</i>) over spinifex	Mod/high
334843	7941331	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i> , <i>Acacia adoxa</i>) over spinifex	Mod/high
335937	7939583	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i> , <i>A. adoxa</i> , <i>A. spondylophylla</i>); scattered trees (<i>E. leucophloia</i>)	Mod/high
338034	7935773	Aerial	Laterite rise	Gravel	Low	Sparse shrubland (<i>Acacia hilliana</i>) over spinifex	Mod/high
349466	7940274	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>) over spinifex	Mod/high
349482	7939223	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>) over spinifex; scattered low trees (<i>E. pruinosa</i> , <i>C. opaca</i>)	Mod/high
349479	7938849	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>) over spinifex	Mod/high
350460	7936315	Aerial	Laterite rise	Gravel	Low	Shrubland (<i>Acacia monticola</i>) over tussock grass and spinifex	Mod/high
351913	7940003	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>) over spinifex, scattered low trees (<i>Corymbia opaca</i>)	Mod/high
351974	7938215	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>) over spinifex, scattered low trees (<i>Eucalyptus leucophloia</i>)	Mod/high
359309	7933628	Aerial	Laterite rise	Gravel	Low	Shrubland (<i>Acacia</i> spp.)	Mod/high
352079	7935485	Aerial	Laterite rise	Gravel	Low	Open low woodland (<i>Eucalyptus leucophloia</i>); scattered low shrubs (<i>Acacia hilliana</i>) (recently burnt?)	Mod/high
355097	7942023	Aerial	Laterite rise	Gravel	Low	Open low shrubland (<i>Acacia hilliana</i>) over spinifex; scattered low trees (<i>Eucalyptus leucophloia</i>)	Mod/high
355097	7942023	Aerial	Laterite rise	Gravel	Low	Open <i>Acacia hilliana</i> . <i>Eucalyptus leucophloia</i> . spinifex (patchy burnt)	Mod/high
356216	7938907	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>)	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
356219	7938542	Aerial	Laterite rise	Gravel	Low	Low open shrubland (<i>Acacia hilliana</i>)	Mod/high
358973	7938852	Aerial	Laterite rise	Gravel	Low	Shrubland (<i>Grevillea wickhamii</i> , <i>A. monticola</i> , <i>A. hilliana</i>); scattered low trees (<i>C. dichromophloia</i>)	Mod/high
325850	7931800	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex, with patches of <i>A. lysiphloia</i> . <i>C. opaca</i> , <i>G. wickhamii</i>	Mod/high
324912	7933078	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex	Mod/high
326302	7932627	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex, with <i>A. lysiphloia</i> . <i>G. wickhamii</i> , <i>Mirbelia viminalis</i>	Mod/high
332071	7944371	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex; patches of <i>Acacia monticola</i>	Mod/high
337707	7939935	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex; patches of <i>Acacia monticola</i>	Mod/high
342137	7937736	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>) over spinifex; patches of <i>Acacia monticola</i>	Mod/high
350793	7938844	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>); sparse small trees (<i>Eucalyptus leucophloia</i>)	Mod/high
357545	7934777	Ground	Laterite rise	Gravel	Low	Shrubland (<i>Acacia monticola</i>)	Mod/high
326503	7932449	Ground	Laterite rise	Gravel	Low	Low shrubland (<i>Acacia hilliana</i>)	Mod/high
359118	7935708	Aerial	Lateritic plain	Orange sandy loam	Gentle	Sparse shrubs (<i>Acacia</i> spp.)	Mod/high
355344	7935562	Aerial	Lateritic plain	Orange sandy loam, some gravel	Gentle	Sparse low woodland (<i>Corymbia dichromophloia</i>) over tussock grass	Absent/low
357478	7937978	Aerial	Lateritic plain	Orange sandy loam	Flat	Tussock grassland, sparse shrubs and trees	Absent/low
358936	7939162	Aerial	Lateritic plain	Orange sandy loam, some gravel	Gentle	Open woodland (<i>Corymbia dichromophloia</i>) over tussocks	Absent/low
350722	7938573	Aerial	Lateritic plain	Orange sandy loam, some gravel	Flat	Open low woodland (<i>Eucalyptus leucophloia</i>)	Absent/low
351995	7937249	Aerial	Lateritic plain	Orange sandy loam, some gravel	Gentle	Scattered low trees (<i>Eucalyptus leucophloia</i>) and low shrubs (<i>Acacia hilliana</i>) over spinifex	Mod/high
354328	7938052	Aerial	Lateritic plain	Orange sandy loam	Gentle	Open low woodland (<i>Eucalyptus leucophloia</i>) over spinifex (burnt)	Absent/low
354299	7936788	Aerial	Lateritic plain	Orange sandy loam, some gravel	Flat	Open low woodland (<i>Eucalyptus leucophloia</i>) over spinifex (burnt)	Absent/low
356252	7940498	Aerial	Lateritic plain	Orange sandy loam, some gravel	Gentle	Open low woodland (<i>E. leucophloia</i> , <i>C. dichromophloia</i> , <i>C. flavescens</i> , <i>E. pruinosa</i>) over spinifex	Mod/high;

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
359059	7937035	Ground	Lateritic plain	Orange sandy loam	Gentle	Sparse shrubs (Acacia spp.)	Mod/high
344660	7973885	Aerial	Loamy plain	Brown loam	Flat	Sparse shrubland over spinifex; scattered low trees (Corymbia flavescens, Corymbia opaca)	Absent/low
329311	7951363	Aerial	Loamy plain	Brown loamy earth	Flat	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Absent/low
332470	7950022	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
333711	7950353	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Mod/high
333759	7948744	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
334867	7950226	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
334856	7950795	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
334850	7951095	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
334782	7952494	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
335855	7950462	Aerial	Loamy plain	Brown loamy earth	Flat	Tussock grassland; scattered shrubs	Absent/low
350694	7942278	Aerial	Loamy plain	Orange / Brown loam	Flat	Grassland, scattered shrubs	Absent/low
351809	7941516	Aerial	Loamy plain	Orange / Brown loam	Flat	Shrubland (patchy) (Acacia lysiphloia) with scattered low trees in area (E. pruinosa, C. opaca)	Mod/high
352954	7940222	Aerial	Loamy plain	Brown loam	Flat	Shrubland (patchy) (Acacia lysiphloia) with scattered low trees in area (E. pruinosa, C. opaca)	Mod/high
333770	7948006	Aerial	Loamy plain	Brown loamy earth	Flat	Grassland	Absent/low
341140	7962849	Aerial	Loamy plain	Brown loam	Flat	Open to scattered shrubland	Absent/low
343495	7975082	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) over spinifex	Absent/low
344543	7976221	Aerial	Loamy plain	Orange / Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) over spinifex	Absent/low
345699	7974888	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) over spinifex	Absent/low
345715	7973665	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) over spinifex	Absent/low
346961	7977624	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) over spinifex	Absent/low
342354	7977594	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) (recently burnt)	Absent/low
342370	7976201	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) (recently burnt)	Absent/low
341210	7977025	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) (recently burnt)	Absent/low
341132	7972406	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over spinifex	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
337947	7966555	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (E. pruinosa, C. opaca) over spinifex	Absent/low
337808	7973207	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over tussock grassland	Absent/low
340129	7973164	Aerial	Loamy plain	Orange / Brown loam	Flat	Open low woodland (C. opaca) over spinifex	Absent/low
337808	7973207	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over tussock grassland	Absent/low
334545	7972773	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over tussock and spinifex grassland	Absent/low
335561	7970131	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over tussock and spinifex grassland	Absent/low
333312	7971568	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over tussock grassland	Absent/low
332243	7977423	Aerial	Loamy plain	Orange / Brown loam	Flat	Open low woodland (C. opaca) over tussock grassland	Absent/low
332356	7974325	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (C. opaca) over tussock grassland	Absent/low
333393	7974155	Aerial	Loamy plain	Orange / Brown loam	Flat	Open low woodland (C. opaca) over tussock and spinifex grassland	Absent/low
332515	7971246	Aerial	Loamy plain	Orange / Brown loam	Flat	Open low woodland (C. opaca) over tussock grassland; scattered Acacia spp.	Absent/low
331487	7972892	Aerial	Loamy plain	Orange / Brown loam	Flat	Tussock grassland with scattered trees (C. opaca)	Absent/low
331241	7975833	Aerial	Loamy plain	Brown loam	Flat	Tussock grassland with scattered low trees (C. opaca, E. pruinosa); spinifex patches in area	Absent/low
334839	7945843	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs and low trees	Absent/low
334834	7947494	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs and low trees	Absent/low
335948	7947604	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
335887	7945299	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
337007	7946450	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
337036	7950181	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
337916	7945815	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
339206	7944104	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
339408	7949728	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
340256	7946504	Aerial	Loamy plain	Brown loamy earth	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
341316	7945837	Aerial	Loamy plain	Brown loamy earth	Flat	Grassland, scattered shrubs	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
342375	7944964	Aerial	Loamy plain	Brown loamy earth	Flat	Grassland, scattered shrubs	Absent/low
348557	7938805	Aerial	Loamy plain	Brown loam	Flat	Tussock grassland with scattered low trees (<i>E. pruinosa</i>)	Absent/low
349419	7943267	Aerial	Loamy plain	Orange / Brown loam	Flat	Hummock tussock grassland, with sparse shrubs (<i>C. lanceolata</i> , <i>A. hemiglauca</i>) and trees (<i>C. opaca</i>)	Absent/low
354217	7942944	Aerial	Loamy plain	Brown loam	Flat	Hummock grassland with scattered trees (<i>Corymbia flavescens</i> , <i>E. pruinosa</i>), <i>Acacia</i> shrubs.	Absent/low
354219	7941538	Aerial	Loamy plain	Brown loam	Flat	Shrubland (<i>Acacia</i> spp.) over tussock grass; with scattered trees (<i>C. flavescens</i> , <i>E. pruinosa</i>)	Mod/high
354274	7938719	Aerial	Loamy plain	Brown loam	Flat	Tussock grassland; with sparse shrubs and low trees	Absent/low
347283	7941327	Aerial	Loamy plain	Brown loam	Flat	Open woodland (<i>Corymbia flavescens</i>)	Absent/low
352950	7941331	Aerial	Loamy plain	Orange / Brown loam	Flat	Tussock grassland; scattered spinifex and trees (<i>C. flavescens</i> , <i>Melaleuca</i> spp. <i>V. viminalis</i>)	Absent/low
355485	7944823	Aerial	Loamy plain	Brown loam	Flat	Open low woodland (<i>Corymbia flavescens</i> , <i>E. pruinosa</i>) over tussock grass	Absent/low
340202	7947560	Ground	Loamy plain	Brown loamy earth	Flat	Open shrubs, small patch (<i>Acacia</i> sp., <i>Melaleuca</i> sp.) over tussock grass	Absent/low
330053	7975275	Ground	Loamy plain	Orange / Brown loam	Flat	Tussock grassland with sparse shrubs (<i>Hakea arborescens</i> , <i>A. sericophylla</i> , <i>A. hemignosta</i>)	Absent/low
335112	7940514	Aerial	Low rocky hill	Gravel, outcrop	Steep	Open low trees (<i>E. leucophloia</i>) with patchy <i>Acacia</i> and <i>Grevillea</i> shrubs over hummock grass	Absent/low
356365	7941823	Aerial	Low rocky hill	Gravel, silty loam	Moderate	Hummock grassland with scattered trees (<i>C. dichromophloia</i>) and <i>Acacia</i> shrubs (<i>G. wickhamii</i>)	Absent/low
355886	7957018	Aerial	Low rocky hill	Gravel, silty loam	Moderate	Open low woodland (<i>Eucalyptus leucophloia</i>) over spinifex	Absent/low
333783	7941909	Aerial	Low rocky hill	Gravel, silty loam	Moderate	Open low woodland (<i>Eucalyptus leucophloia</i>) over spinifex	Absent/low
334822	7940933	Aerial	Low rocky hill	Gravel, outcrop	Steep	Hummock grassland with scattered low trees (<i>Eucalyptus leucophloia</i>) and low shrubs (<i>Acacia adoxa</i>)	Absent/low
350695	7937585	Aerial	Low rocky hill	Outcrop, Gravel, silty loam	Moderate	Scattered shrubs	Absent/low
356227	7942657	Aerial	Low rocky hill	Gravel, silty loam	Moderate	Low open woodland (<i>Corymbia dichromophloia</i>) over spinifex	Absent/low
357395	7942916	Aerial	Low rocky hill	Gravel, silty loam	Moderate	Low open woodland (<i>Corymbia dichromophloia</i>) over spinifex	Absent/low
357502	7944321	Aerial	Low rocky hill	Gravel, silty loam	Moderate	Low open woodland (<i>Corymbia dichromophloia</i>) over spinifex	Absent/low
355833	7957727	Aerial	Minor drainage	Brown loam	Moderate	Shrubland (<i>Acacia</i> sp.) with <i>Melaleuca</i> spp. over tussock grass	Absent/low
331534	7944195	Aerial	Minor drainage	Gravel	Moderate	Scattered Mallee (<i>Eucalyptus pruinosa</i>) over spinifex	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
332121	7944109	Aerial	Minor drainage	Gravel	Moderate	Shrubland (<i>Acacia monticola</i>) with scattered Mallee (<i>Eucalyptus pruinosa</i>) over spinifex	Mod/high
331588	7943751	Aerial	Minor drainage	Gravel, loam	Gentle	Scattered trees and shrubs	Absent/low
332606	7941399	Aerial	Minor drainage	Brown loam	Gentle	Open woodland (<i>Corymbia flavescens</i>) over sparse tussock grass	Absent/low
332525	7942716	Aerial	Minor drainage	Gravel, loam	Gentle	Scattered trees (<i>Bloodwood</i>) and spinifex	Absent/low
332516	7943577	Aerial	Minor drainage	Gravel	Moderate	Shrubland (<i>Acacia monticola</i>) over spinifex	Mod/high
333788	7942148	Aerial	Minor drainage	Gravel, loam	Moderate	Low open woodland (<i>Eucalyptus leucophloia</i>) over spinifex	Absent/low
333823	7940453	Aerial	Minor drainage	Gravel, loam	Moderate	Scattered low trees over spinifex and tussock grass	Absent/low
356140	7943947	Aerial	Minor drainage	Clayey loam	Gentle	Open shrubland (<i>Melaleuca</i> spp.) over tussock grass	Absent/low
358823	7943650	Aerial	Minor drainage	Clayey loam	Moderate	Open shrubland (dead shrubs) with scattered low trees (<i>Corymbia dichromophloia</i>) over tussock grass	Absent/low
358697	7942482	Aerial	Minor drainage	Clayey loam	Moderate	Open shrubland (<i>Melaleuca</i> sp., dead shrubs) with scattered trees (<i>C. dichromophloia</i>) over tussocks	Absent/low
358814	7941288	Aerial	Minor drainage	Clayey loam	Gentle	Open shrubland (<i>Melaleuca</i> sp., dead shrubs) with scattered trees (<i>C. dichromophloia</i>) over tussocks	Absent/low
354868	7957393	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia lysiphloia</i> , dead) with scattered <i>E. pruinosa</i> and <i>C. flavescens</i> over tussock grass	Mod/high
352921	7957279	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i>)	Mod/high
353872	7955692	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i>); occasional <i>Corymbia opaca</i>	Mod/high
351936	7960059	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland over spinifex and tussocks	Absent/low
350562	7959336	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i> , dead)	Mod/high
350885	7958144	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy shrubland (<i>Acacia lysiphloia</i>) over tussock grass	Mod/high
349343	7957378	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i> , dead)	Mod/high
346858	7963802	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland over spinifex and tussocks	Absent/low
346705	7960997	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy shrubland (<i>Acacia lysiphloia</i>) over tussock grass	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
346964	7960487	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy shrubland (<i>Acacia lysiphloia</i>) over tussock grass	Mod/high
346953	7959249	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Acacia shrubland (currently mostly dead) (assumed to be <i>A. lysiphloia</i>)	Mod/high
348261	7959253	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Acacia shrubland (currently mostly dead) (assumed to be <i>A. lysiphloia</i>)	Mod/high
348540	7960555	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Acacia shrubland (<i>A. stipuligera</i> , <i>A. adsurgens</i>)	Absent/low
345767	7975951	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland over spinifex	Absent/low
346078	7968132	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia stipuligera</i>)	Mod/high
346116	7963126	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp.)	Absent/low
344787	7965767	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia stipuligera</i>)	Mod/high
344751	7972458	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia stipuligera</i>)	Mod/high
343574	7975705	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy open shrubland (<i>Acacia lysiphloia</i>)	Mod/high
343696	7969717	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy open shrubland (<i>Acacia</i> sp.)	Mod/high
343785	7967998	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i> and <i>A. stipuligera</i>)	Mod/high
343711	7967548	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia stipuligera</i>)	Absent/low
343758	7964051	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i> and <i>A. stipuligera</i>)	Mod/high
343470	7962978	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i> and <i>A. stipuligera</i>)	Mod/high
343675	7960706	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland, patchy (<i>Acacia</i> sp.)	Mod/high
342672	7963943	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i>)	Mod/high
342877	7965099	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia stipuligera</i>)	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
342352	7972272	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (Acacia lysiphloia)	Mod/high
340797	7967467	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
340339	7962802	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (Acacia lysiphloia)	Mod/high
342266	7971643	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (Acacia lysiphloia)	Mod/high
340292	7971628	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia)	Mod/high
340528	7972071	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia)	Mod/high
340149	7968225	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
340949	7965065	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia, currently dead)	Mod/high
338828	7973019	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
338879	7972395	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high
338790	7969270	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
338997	7968318	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
337847	7970032	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia)	Mod/high
337760	7972207	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia)	Mod/high
336351	7971512	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (Acacia lysiphloia)	Mod/high
336351	7969536	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high
336315	7968127	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (Acacia lysiphloia)	Mod/high
336407	7967278	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
333966	7969996	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia stipuligera</i>)	Mod/high
333502	7972199	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (<i>Acacia lysiphloia</i>)	Mod/high
333811	7974850	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i>)	Mod/high
333490	7977890	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (<i>Acacia lysiphloia</i>)	Mod/high
335812	7960368	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i>)	Mod/high
349097	7931664	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia torulosa</i> , with some <i>Acacia lysiphloia</i>) over spinifex; scattered <i>Corymbia setosa</i>	Mod/high
329228	7931603	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> spp. and <i>Grevillea refracta</i>)	Absent/low
325858	7945628	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patches (<i>Acacia lysiphloia</i>)	Mod/high
325553	7947723	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patches (<i>Acacia lysiphloia</i>)	Mod/high
325230	7956150	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia lysiphloia</i>)	Mod/high
325175	7957319	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia lysiphloia</i>)	Mod/high
327374	7942866	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Grassland (tussock grass and spinifex); scattered shrubs (<i>Acacia</i> sp. dead)	Absent/low
327021	7952958	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i>)	Mod/high
327478	7954847	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock Grassland; scattered shrubs (<i>Acacia</i> sp. dead)	Mod/high
327438	7953657	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock Grassland; scattered shrubs (<i>Acacia</i> sp. dead)	Mod/high
329129	7958864	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (recently burnt patch)	Absent/low
329224	7956911	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia</i> sp.) over spinifex	Mod/high
329244	7954423	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia</i> sp.) over spinifex	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
329351	7952419	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp.) over spinifex	Absent/low
329291	7952688	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Absent/low
329520	7935529	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp., dead, burnt) (likely A. lysiphloia)	Mod/high
329475	7935760	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp., dead, burnt)	Mod/high
329493	7936140	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp., dead, burnt)	Mod/high
330391	7933146	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia torulosa)	Mod/high
330358	7933398	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia torulosa)	Mod/high
330387	7933948	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia torulosa)	Mod/high
330395	7933726	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low
329557	7932956	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low
330403	7934678	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low
330395	7935917	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low
330188	7943588	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
330319	7945948	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
330288	7946267	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Mod/high
330268	7952982	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Mod/high
330359	7953386	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low
330328	7954249	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
330353	7958527	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (recently burnt patch)	Mod/high
331374	7956077	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open to patch Acacia shrubs	Mod/high
331382	7954511	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland	Absent/low
331417	7951490	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (recently burnt patch)	Absent/low
331292	7946161	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
331525	7941611	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
332527	7935520	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open to patchy Acacia shrubs	Mod/high
332411	7939629	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia, young)	Mod/high
333313	7945222	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
333754	7944442	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high
333634	7939292	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia, young)	Mod/high
335013	7955997	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
335944	7932980	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
336970	7934238	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open Shrubland (Acacia torulosa)	Mod/high
336812	7954705	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia lysiphloia, A. stipuligera) over spinifex	Mod/high
337654	7954590	Aerial	Sandplain	Sandy red / orange earth	Flat	Open shrubland (Acacia sp.)	Mod/high
337921	7938529	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp.)	Mod/high
338012	7932407	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
339042	7932460	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa, A. stipuligera)	Mod/high
339271	7937193	Aerial	Sandplain	Sandy red / orange earth	Flat	Open shrubland (Acacia sp., dead)	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
339359	7943505	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
339391	7950594	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
339971	7942778	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa)	Mod/high
339928	7940696	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
340331	7939580	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
340255	7933092	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
340401	7932638	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
341377	7933001	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
341508	7933764	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
341559	7936569	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
342720	7944086	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
342436	7938763	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
342916	7932582	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
343675	7937696	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia sp.)	Mod/high
343418	7939633	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia stipuligera)	Mod/high
345041	7941730	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
344833	7933352	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa) with scattered low trees (Corymbia setosa, Corymbia opaca)	Mod/high
345855	7937780	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
346157	7940694	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
347676	7940762	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrub patch (Acacia lysiphloia)	Mod/high
347202	7937256	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high
348504	7936410	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high
348493	7937402	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp.); occasional small trees Eucalyptus leucophloia, E. pruinosa	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
352095	7933304	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (<i>Acacia torulosa</i>)	Mod/high
353010	7938262	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy shrubland (<i>Acacia lysiphloia</i>)	Mod/high
355733	7959859	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (dead, likely <i>A. lysiphloia</i>)	Mod/high
352838	7959791	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Scattered shrubs, isolated low trees	Absent/low
350632	7957288	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Scattered shrubs, isolated low trees	Absent/low
342513	7962555	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia lysiphloia</i>)	Mod/high
342165	7969911	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland, over tussock grass and spinifex	Absent/low
340966	7968726	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (<i>Acacia</i> sp.)	Mod/high
337867	7971112	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered <i>C. opaca</i>)	Absent/low
334424	7968962	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (<i>Acacia lysiphloia</i>) with scattered <i>C. opaca</i> over tussock grass and spinifex	Absent/low
333711	7967901	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (small) (<i>Acacia lysiphloia</i>) with scattered <i>C. opaca</i> over tussock grass and spinifex	Absent/low
347156	7931670	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp.)	Mod/high
345566	7931656	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp.)	Mod/high
337450	7931619	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia</i> sp.) with scattered trees (<i>C. opaca</i>)	Mod/high
333225	7931620	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland, scattered trees (<i>C. opaca</i>) over spinifex and tussock grass	Absent/low
331275	7931571	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland, scattered trees (<i>C. opaca</i>) over spinifex and tussock grass	Absent/low
325570	7934638	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia</i> sp., currently dead/burnt)	Mod/high
325326	7939358	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with open low trees (<i>Corymbia setosa</i>)	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
325066	7946681	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patches (<i>Acacia lysiphloia</i>)	Mod/high
325372	7947154	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patches (<i>Acacia lysiphloia</i>)	Mod/high
324620	7948896	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with open trees (<i>Corymbia opaca</i>)	Absent/low
325213	7951151	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland over spinifex	Absent/low
325216	7953978	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Scattered shrubs (<i>Acacia</i> sp.)	Mod/high
325208	7955233	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland, some patches (<i>Acacia lysiphloia</i>)	Mod/high
326261	7956161	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i>) over spinifex	Mod/high
326223	7957378	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i>) over spinifex; scattered small trees (<i>C. opaca</i>)	Mod/high
326211	7958136	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i> , <i>A. stipuligera</i>) over spinifex; scattered small trees (<i>C. opaca</i>)	Mod/high
326290	7953967	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland over spinifex	Absent/low
326299	7947968	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (<i>Acacia lysiphloia</i>) over spinifex; scattered small trees (<i>C. opaca</i>)	Mod/high
327634	7932468	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs (<i>Acacia</i> sp.); scattered small trees (<i>Owenia reticulata</i>)	Absent/low
327636	7933612	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp., mostly dead)	Mod/high
327570	7936245	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs and trees	Absent/low
327444	7943818	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp., mostly dead); scattered trees (<i>C. opaca</i>)	Mod/high
327463	7946796	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs and trees	Absent/low
327438	7948884	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs and trees	Absent/low
327427	7950994	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs and trees (<i>C. opaca</i>)	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
327398	7955976	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia, A. stipuligera) over spinifex; scattered small trees (C. opaca)	Mod/high
327370	7956727	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia) over spinifex; scattered small trees (C. opaca)	Mod/high
327377	7958473	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia, A. stipuligera) over spinifex; scattered small trees (C. opaca)	Mod/high
329211	7958055	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia, A. stipuligera) over spinifex; scattered small trees (C. opaca)	Mod/high
329257	7954927	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with sparse shrubs, isolated small trees	Absent/low
329297	7953339	Aerial	Sandplain	Sandy red / orange earth	Flat	Hummock grassland with sparse shrubs, isolated small trees	Absent/low
329318	7949441	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with sparse shrubs, isolated small trees (C. opaca)	Absent/low
329380	7946070	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs (Acacia sp.) and trees (C. opaca)	Mod/high
329459	7940340	Aerial	Sandplain	Sandy red / orange earth	Flat	Scattered dead shrubs, potential regrowth of Acacia lysiphloia	Mod/high
330424	7937911	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Scattered dead shrubs (assumed Acacia lysiphloia), tussocks, spinifex	Mod/high
330315	7949995	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, isolated trees and shrubs	Absent/low
330349	7954654	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, isolated trees and shrubs	Absent/low
330256	7956340	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered shrubs	Absent/low
330215	7957942	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia lysiphloia, A. stipuligera) over spinifex; scattered small trees (C. opaca)	Mod/high
331150	7958805	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp.) over spinifex	Mod/high
331509	7940495	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs (Acacia sp.) and trees (C. opaca)	Absent/low
331567	7934199	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs (Croton aridus) and trees (C. opaca)	Absent/low
331529	7943332	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrub patch (Acacia lysiphloia) with scattered trees (C. opaca) over tussock grass and spinifex	Mod/high





PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
332568	7936726	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrub patches (<i>Acacia lysiphloia</i> , young) with scattered trees (<i>C. opaca</i>) over tussocks and spinifex	Mod/high
332439	7950992	Aerial	Sandplain	Sandy red / orange earth	Flat	Hummock grassland, with isolated trees and shrubs	Absent/low
332440	7954732	Aerial	Sandplain	Sandy red / orange earth	Flat	Hummock grassland, scattered dead shrubs	Absent/low
332459	7957486	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered dead shrubs	Absent/low
332419	7958625	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia lysiphloia</i>) over spinifex	Mod/high
333749	7953547	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (<i>Acacia</i> sp.) over spinifex	Mod/high
333721	7951797	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered shrubs	Absent/low
333908	7936673	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered shrubs (<i>Wrightia saligna</i>) and trees (<i>C. opaca</i>)	Absent/low
333876	7934777	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp., mostly dead), scattered low trees (<i>Corymbia setosa</i>)	Mod/high
334763	7954558	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock and tussock grassland, scattered shrubs and low trees	Absent/low
335830	7954395	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (<i>Acacia</i> sp.)	Mod/high
335840	7953442	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock and tussock grassland, scattered shrubs	Absent/low
337063	7952348	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland patch (<i>Acacia</i> sp. dead, likely <i>A. lysiphloia</i>) over spinifex	Mod/high
337819	7951997	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland patch (<i>Acacia</i> sp. dead, likely <i>A. lysiphloia</i>) over spinifex	Mod/high
339421	7947167	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered shrubs, some small patches	Absent/low
340385	7936050	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (<i>Acacia</i> sp.) with scattered low trees (<i>Corymbia setosa</i>) over spinifex and tussock grass	Mod/high
340398	7934116	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (<i>Acacia torulosa</i>) over spinifex and tussock grass; scattered trees (<i>C. opaca</i>)	Mod/high
341365	7939376	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (<i>Acacia torulosa</i>) over tussock grass; scattered trees (<i>C. opaca</i>)	Mod/high
341313	7944132	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, scattered shrubs	Absent/low





PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
342363	7934938	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp.)	Mod/high
343472	7934752	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa)	Mod/high
343512	7938144	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered low trees (Corymbia setosa)	Absent/low
344865	7943914	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa)	Mod/high
344735	7938795	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp.)	Mod/high
344766	7937718	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered low trees (Corymbia setosa)	Absent/low
344764	7936945	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa) over spinifex	Mod/high
344771	7936146	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa) over spinifex; scattered low trees (Corymbia setosa)	Mod/high
344868	7934141	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia stipuligera) over spinifex; scattered low trees (Corymbia setosa)	Mod/high
346069	7935399	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa) over spinifex; scattered low trees (Corymbia setosa)	Mod/high
346268	7942132	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Tussock grassland with scattered trees (C. opaca)	Absent/low
346918	7944330	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa) over spinifex	Mod/high
346277	7943790	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa) over spinifex	Mod/high
347310	7942442	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp., mostly dead) over spinifex	Mod/high
347118	7933484	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered shrubs Acacia sp.) and low trees (Corymbia setosa)	Absent/low
348296	7933747	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (likely A. stipuligera) over spinifex; scattered low trees (Corymbia setosa)	Mod/high
348461	7941335	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland with scattered trees (Corymbia opaca)	Absent/low
350756	7934309	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high

PRELIMINARY LAND TYPE SITE DATA							
Easting	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
350773	7934962	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.) over spinifex; scattered small trees	Mod/high
351026	7936381	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia lysiphloia)	Mod/high
353149	7934543	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Hummock grassland, sparse shrubs	Absent/low
352069	7934993	Aerial	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa, Acacia stipuligera) over spinifex; scattered low trees (Corymbia setosa)	Mod/high
352148	7933722	Aerial	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patches (Acacia stipuligera, Newcastelia spodiotricha) with scattered low trees (C. setosa)	Mod/high
353127	7936026	Aerial	Sandplain	Sandy red / orange earth	Flat	Open shrubland, patchy (A. torulosa, A. stipuligera) over spinifex; scattered low trees (C. setosa)	Mod/high
354746	7958715	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia lysiphloia, dead) over tussock grass; scattered C. opaca, C. flavescens	Mod/high
354852	7956433	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia lysiphloia, dead) over forbs and tussock grasses	Mod/high
354947	7954657	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia, dead) over forbs and tussock grasses; scattered Corymbia opaca	Mod/high
351994	7956874	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland (Petalostigma nummularium) over tussock grass (Eriachne obtusa)	Absent/low
350698	7956513	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy shrubland (Acacia lysiphloia) over tussock grass	Mod/high
347012	7965921	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Sparse shrubland (Acacia stipuligera, G. wickhamii) over tussock grass (Chrysopogon fallax, E. obtusa)	Mod/high
345047	7963644	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia stipuligera)	Mod/high
337732	7968806	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia lysiphloia) with scattered Croton aridus, Petalostigma nummularia, G. wickhamii, C. opaca	Mod/high
336522	7968044	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp., with scattered Ipomea costata, Croton aridus) over spinifex	Mod/high
330685	7973620	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia, some Acacia hemignosta, Acacia stipuligera) over spinifex	Mod/high
325316	7941447	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp. dead) over hummock grass	Mod/high
326341	7938548	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Absent/low

PRELIMINARY LAND TYPE SITE DATA							
Eastings	Northing	Survey type	Landform	Soil	Slope	Vegetation	General abundance of RDL species (bilby)
327501	7938707	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Absent/low
327486	7939516	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Absent/low
327521	7939921	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Absent/low
329522	7936659	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia torulosa, with C. aridus, Crotalaria sp.) over tussock grass and spinifex	Mod/high
329922	7951907	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia torulosa)	Absent/low
335873	7955776	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrub patch (Acacia lysiphloia, dead)	Mod/high
335988	7933540	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa)	Mod/high
338741	7953792	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia lysiphloia, A. stipuligera) over spinifex (T. pungens) some tussocks Er. obtusa	Mod/high
339339	7937720	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Open shrubland (Acacia sp., mostly dead, most likely A. stipuligera)	Mod/high
339708	7939943	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia torulosa)	Mod/high
340209	7937086	Ground	Sandplain	Sandy red / orange earth	Flat	Shrubland (Acacia torulosa)	Mod/high
343573	7938855	Ground	Sandplain	Sandy red / orange earth	Flat	Open shrubland over spinifex and scattered tussock grasses	Absent/low
349491	7936076	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Shrubland (Acacia sp.)	Mod/high
353402	7938449	Ground	Sandplain	Orange / brown sand to earthy sand	Flat	Patchy shrubland (Acacia lysiphloia)	Mod/high





APPENDIX D PRELIMINARY LAND TYPES PHOTOGRAPHS (REPRESENTATIVE)





Land type	Representative photographs	
Creek line (moderate drainage)		
Minor drainage		

Land type	Representative photographs	
Alluvial plain		
Ephemeral swamp		

Land type	Representative photographs	
Laterite rise		
Laterite rise		

Land type	Representative photographs	
Lateritic plain		
Low rocky hill		

Land type	Representative photographs	
Loamy plain		
Loamy plain		

Land type	Representative photographs	
Sandplain		
Sandplain		

APPENDIX E GREATER BILBY SURVEY SITE DATA (A3 PAGE SIZE)

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S001	Sign check	Aerial, Ground	-18.4568649	133.6244196	Sandplain	Acacia lysiphloia shrubland (dead)	Acacia lysiphloia (currently dead)	Confirmed	Confirmed	2 x burrows, several old RDL digs	Old	
S002	Aerial habitat check	Aerial	-18.4688198	133.6254783	Sandplain	Acacia lysiphloia shrubland (dead)	Acacia lysiphloia (currently dead)	None observed	NA	NA	NA	
S003	Sign check	Aerial, Ground	-18.4774968	133.6252589	Sandplain	Acacia lysiphloia open shrubland (dead)	Acacia lysiphloia (mostly dead)	Likely	Likely	2 x burrows, several open diggings	Old	Could not confirm Bilby sign due to absence of definitive evidence. However burrow dimensions indicated most likely bilby
S004	Goanna sign check	Aerial, Ground	-18.4935447	133.626033	Sandplain	Acacia open shrubland (dead)		Not bilby	Goanna sign ground verified	NA	NA	Goanna digs observed
S005	Aerial habitat check	Aerial	-18.4841255	133.6159301	Sandplain	Acacia open shrubland		None observed	NA	NA	NA	
S006	Sign check	Aerial	-18.4697156	133.6070361	Sandplain	Acacia lysiphloia open shrubland	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Goanna sign
S007	Goanna sign check	Aerial, Ground	-18.4733133	133.5982279	Sandplain	Sparse shrubland		Not bilby	Goanna sign ground verified	NA	NA	Goanna sign
S008	Sign check	Aerial	-18.4445259	133.5979105	Sandplain	Sparse shrubland, spinifex and tussocks		Not bilby	Not bilby	NA	NA	Goanna sign
S009	Aerial habitat check, sign check	Aerial	-18.4509701	133.5848514	Sandplain	Acacia lysiphloia open shrubland (dead)	Acacia lysiphloia (currently dead)	None observed	Not bilby	NA	NA	Goanna digs observed
S010	Aerial habitat check	Aerial	-18.4617603	133.5878195	Sandplain	Acacia lysiphloia patchy shrubland, tussock grass	Acacia lysiphloia	None observed	NA	NA	NA	
S011	Goanna sign check	Aerial, Ground	-18.476483	133.5859351	Sandplain	Acacia lysiphloia patchy shrubland, tussock grass	Acacia lysiphloia	None observed	Goanna sign ground verified	NA	NA	Goanna digs observed
S012	Aerial habitat check	Aerial	-18.4685741	133.5731623	Sandplain	Acacia lysiphloia open shrubland (dead)	Acacia lysiphloia (currently dead)	None observed	NA	NA	NA	
S013	Aerial habitat check, sign check	Aerial	-18.4398103	133.5658048	Sandplain	Acacia shrubland (A. stipuligera, A. adsurgens)		None observed	Not bilby	NA	NA	Goanna digs observed
S014	Aerial habitat check, sign check	Aerial	-18.4515521	133.5630619	Sandplain	Acacia shrubland (currently mostly dead)		None observed	Not bilby	NA	NA	Goanna digs observed
S015	Aerial habitat check, sign check	Aerial	-18.4514962	133.550677	Sandplain	Acacia shrubland (currently mostly dead)		None observed	Not bilby	NA	NA	Goanna digs observed
S016	Aerial habitat check, sign check	Aerial	-18.4403089	133.5508711	Sandplain	Acacia lysiphloia patchy shrubland, tussock grass		None observed	Not bilby	NA	NA	Goanna digs observed
S017	Aerial habitat check, sign check	Aerial	-18.4356812	133.5484651	Sandplain	Acacia lysiphloia patchy shrubland, tussock grass		None observed	Not bilby	NA	NA	Goanna digs observed
S018	Sign check	Aerial	-18.4103518	133.5501202	Sandplain	Sparse shrubland, spinifex and tussocks		Not bilby	Not bilby	NA	NA	Confirmed to be goanna dig, landing not required
S019	Aerial habitat check, Track-plot	Aerial, Ground	-18.3912189	133.5517428	Sandplain	Acacia shrubland	Acacia hilliana	None observed	NA	NA	NA	TrackPlot4. Goanna digs observed
S020	Aerial habitat check	Aerial	-18.3566334	133.5510283	Drainage line - moderate	River Red Gum, Acacia lysiphloia shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S021	Goanna sign check	Aerial, Ground	-18.2962853	133.5520432	Sandplain	Acacia shrubland		Not bilby	Goanna sign ground verified	NA	NA	Confirmed onground as goanna burrow
S022	Goanna sign check	Aerial, Ground	-18.2930811	133.5519697	Sandplain	Acacia shrubland		Not bilby	Goanna sign ground verified	NA	NA	Confirmed onground as potential Yellow Spotted Monitor burrow (active)
S023	Aerial habitat check	Aerial	-18.3005025	133.5407149	Sandplain	Sparse shrubland, spinifex		None observed	NA	NA	NA	
S024	Aerial habitat check	Aerial	-18.3711725	133.5430664	Sandplain	Acacia lysiphloia patch		None observed	NA	NA	NA	
S025	Aerial habitat check	Aerial	-18.4164055	133.5430468	Sandplain	Acacia shrubland		None observed	NA	NA	NA	
S026	Aerial habitat check, sign check, Track-plot	Aerial, Ground	-18.411642	133.5329685	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	Confirmed	Confirmed	2 x burrows (old), several RDL diggings (old)	Old	TrackPlot5. Bilby sign observed from helicopter.
S027	Aerial habitat check	Aerial	-18.3924409	133.530667	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	Wedgetail Eagle nest observed (bird seen in nest)
S028	Aerial habitat check	Aerial	-18.3808762	133.5265581	Sandplain	Acacia shrubland		None observed	NA	NA	NA	
S029	Aerial habitat check	Aerial	-18.3638181	133.5318108	Sandplain	Acacia shrubland		None observed	NA	NA	NA	
S030	Aerial habitat check	Aerial	-18.3427214	133.5292452	Drainage line - moderate	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S031	Aerial habitat check	Aerial	-18.3319849	133.530838	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S032	Sign check	Aerial	-18.3190881	133.5300858	Sandplain	Sparse shrubland, spinifex		Not bilby	Not bilby	NA	NA	Confirmed to be goanna dig, landing not required
S033	Aerial habitat check	Aerial	-18.3025614	133.5199532	Sandplain	Acacia lysiphloia open shrubland, patchy	Acacia lysiphloia	None observed	NA	NA	NA	

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S034	Aerial habitat check	Aerial	-18.3566743	133.5206545	Sandplain	Acacia open shrubland, patchy	Acacia lysiphloia	None observed	NA	NA	NA	
S035	Aerial habitat check	Aerial	-18.3722101	133.5213634	Sandplain	Acacia lysiphloia and A. stipuligera patch	Acacia lysiphloia	None observed	NA	NA	NA	
S036	Aerial habitat check, sign check	Aerial	-18.3762782	133.5206276	Sandplain	Acacia stipuligera patch		None observed	Not bilby	NA	NA	Goanna sign observed
S037	Aerial habitat check	Aerial	-18.4078755	133.5207987	Sandplain	Acacia lysiphloia and A. stipuligera patch	Acacia lysiphloia	None observed	NA	NA	NA	
S038	Aerial habitat check	Aerial	-18.4175504	133.517991	Sandplain	Acacia lysiphloia and A. stipuligera patch	Acacia lysiphloia	None observed	NA	NA	NA	
S039	Aerial habitat check	Aerial	-18.4380862	133.5197588	Sandplain	Acacia open shrubland, patch	Acacia lysiphloia (assumed)	None observed	NA	NA	NA	
S040	Aerial habitat check	Aerial	-18.4087706	133.5105127	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia (assumed)	None observed	NA	NA	NA	
S041	Aerial habitat check	Aerial	-18.3983438	133.5125457	Sandplain	Acacia stipuligera patch		None observed	NA	NA	NA	
S042	Aerial habitat check, sign check	Aerial	-18.3391653	133.5072648	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	Not bilby	NA	NA	Goanna sign observed
S043	Aerial habitat check	Aerial	-18.3334917	133.5081346	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	NA	NA	NA	
S044	Aerial habitat check	Aerial	-18.3767885	133.4930392	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S045	Aerial habitat check	Aerial	-18.3985061	133.4942929	Sandplain	Acacia lysiphloia patch (currently dead)	Acacia lysiphloia (currently dead)	None observed	NA	NA	NA	Sand Goanna sign observed
S046	Aerial habitat check	Aerial	-18.4189043	133.4883449	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	NA	NA	NA	
S047	Aerial habitat check	Aerial	-18.3698934	133.4869696	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	Sand Goanna sign observed
S048	Aerial habitat check	Aerial	-18.3391535	133.4885898	Sandplain	Acacia lysiphloia open shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S049	Sign check	Aerial	-18.3351727	133.4908568	Sandplain	Acacia lysiphloia open shrubland	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Confirmed as potential Yellow Spotted Monitor burrow (active)
S050	Aerial habitat check	Aerial	-18.2871142	133.4769979	Depression	Scattered Eucalyptus pruinosa, tussock grassland		None observed	NA	NA	NA	Sand Goanna sign observed
S051	Aerial habitat check	Aerial	-18.3196063	133.4766738	Sandplain	Acacia shrubland	Acacia lysiphloia	None observed	NA	NA	NA	Sand Goanna sign observed
S052	Aerial habitat check	Aerial	-18.326477	133.4748513	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S053	Sign check	Aerial	-18.3321226	133.4752825	Sandplain	Acacia shrubland	Acacia lysiphloia	Likely	Likely	Burrows on track (old)	Old	Fenceline track, cat tracks, dog tracks, burrows assumed to be bilby due to shape but could not land in area to confirm due to RWA
S054	Aerial habitat check	Aerial	-18.3603433	133.4741936	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S055	Aerial habitat check	Aerial	-18.368965	133.4760808	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	Cat observed
S056	Goanna sign check	Aerial, Ground	-18.3659014	133.4601923	Sandplain	Acacia shrubland		Not bilby	Goanna sign ground verified	NA	NA	Sand Goanna sign confirmed onground
S057	Aerial habitat check, Track-plot	Aerial, Ground	-18.364463	133.4641485	Sandplain	Acacia lysiphloia shrubland	Acacia lysiphloia, Scaevola parviflora	None observed	NA	NA	NA	TrackPlot6. Sand Goanna sign observed
S058	Aerial habitat check	Aerial	-18.3533917	133.4653355	Sandplain	Acacia lysiphloia open shrubland	Acacia lysiphloia	None observed	NA	NA	NA	Sand Goanna sign observed
S059	Aerial habitat check	Aerial	-18.3337349	133.4646829	Sandplain	Acacia lysiphloia open shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S060	Sign check	Aerial	-18.3232646	133.4559141	Depression	Scattered Eucalyptus victrix, tussock grass		Not bilby	Not bilby	NA	NA	Large goanna burrows and digs indicates potential Yellow Spotted Monitor burrow (active)
S061	Aerial habitat check	Aerial	-18.3399022	133.4512978	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	NA	NA	NA	
S062	Aerial habitat check	Aerial	-18.3577594	133.4511386	Sandplain	Acacia shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S063	Aerial habitat check	Aerial	-18.3704861	133.450687	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	NA	NA	NA	Pheasant Coucal observed
S064	Sign check	Aerial, Ground	-18.371255	133.4526332	Sandplain	Acacia shrubland	Acacia lysiphloia	Not bilby	Goanna sign ground verified	NA	NA	Sand Goanna sign confirmed on ground
S065	Aerial habitat check	Aerial	-18.3781666	133.4514823	Sandplain	Acacia shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S066	Sign check	Aerial	-18.3452795	133.4335252	Depression	Bloodwood, tussock grass		Not bilby	Not bilby	NA	NA	Numerous large goanna burrows and digs indicates potential Yellow Spotted Monitor
S067	Aerial habitat check	Aerial	-18.353415	133.4286074	Sandplain	Acacia stipuligera shrubland	Acacia lysiphloia (scattered)	None observed	NA	NA	NA	
S068	Aerial habitat check	Aerial	-18.333478	133.4243943	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	NA	NA	NA	
S069	Aerial habitat check, sign check	Aerial	-18.3095494	133.4275394	Sandplain	Acacia lysiphloia open shrubland	Acacia lysiphloia	None observed	Not bilby	NA	NA	Large goanna burrow, assumed Yellow Spotted Monitor
S070	Aerial habitat check	Aerial	-18.2820576	133.4247468	Sandplain	Acacia lysiphloia small patch	Acacia lysiphloia	None observed	NA	NA	NA	
S071	Goanna sign check	Aerial, Ground	-18.3486279	133.4134794	Sandplain	Acacia open shrubland	Acacia lysiphloia	Not bilby	Goanna sign ground verified	NA	NA	Sand Goanna sign confirmed onground

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S072	Goanna sign check	Aerial, Ground	-18.3481243	133.4132962	Sandplain	Acacia open shrubland	Acacia lysiphloia	Not bilby	Goanna sign ground verified	NA	NA	Sand Goanna sign confirmed on ground
S073	Track-plot	Ground	-18.281553	133.377259	Sandplain	Acacia lysiphloia patchy shrubland	Acacia lysiphloia, Senna notabilis	None observed	NA	NA	NA	TrackPlot1
S074	Sign check	Aerial	-18.2978934	133.3886389	Sandplain	Tussock grass and spinifex		Not bilby	Not bilby	NA	NA	Highly likely sand goanna, within Railway corridor so could not verify on ground
S075	Sign check	Aerial	-18.3018516	133.3902542	Sandplain	Tussock grass and spinifex		Not bilby	Not bilby	NA	NA	Highly likely sand goanna, within Railway corridor so could not verify on ground
S076	Aerial habitat check, Track-plot	Aerial, Ground	-18.320412	133.3978672	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	TrackPlot2. Goanna digs observed
S077	Aerial habitat check	Aerial	-18.4405484	133.4452959	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S078	Aerial habitat check, Track-plot	Aerial, Ground	-18.5001892	133.4724914	Sandplain	Acacia lysiphloia shrubland	Acacia lysiphloia	None observed	NA	NA	NA	TrackPlot3.
S079	Aerial habitat check	Aerial	-18.7008838	133.5688974	Sandplain	Acacia shrubland	Acacia lysiphloia, Acacia torulosa	None observed	NA	NA	NA	
S080	Aerial habitat check	Aerial	-18.6999058	133.3805133	Sandplain	Acacia and Grevillea refracta shrubland		None observed	NA	NA	NA	
S081	Sign check	Aerial, Ground	-18.697848	133.3485036	Laterite rise	Acacia hilliana shrubland	Acacia hilliana, Acacia lysiphloia, Senna notabilis	Confirmed	Confirmed	Burrow (2 entrances) (old), numerous RDL digs (old)	Old	Goanna digs observed
S082	Aerial habitat check, sign check, Track-plot	Aerial, Ground	-18.697911	133.347936	Laterite rise	Acacia hilliana shrubland	Acacia hilliana, Senna notabilis	Confirmed	Confirmed	Burrow (2 entrances, RDL digs	Old	TrackPlot7.
S083	Aerial habitat check	Aerial	-18.6892231	133.3420052	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S084	Aerial habitat check, sign check	Aerial, Ground	-18.6862196	133.3397268	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	Confirmed	Confirmed	Burrow x 1, RDL digs	Old	
S085	Aerial habitat check, sign check	Aerial, Ground	-18.690412	133.3528662	Laterite rise	Acacia hilliana shrubland	Acacia hilliana, Senna notabilis, Acacia lysiphloia	Confirmed	Confirmed	Burrow x2, RDL digs, open digs, scats, tracks, recent and old	Recent	
S086	Aerial habitat check	Aerial	-18.6880128	133.3496987	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S087	Aerial habitat check	Aerial	-18.6759887	133.3480895	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S088	Aerial habitat check	Aerial	-18.6663987	133.3449118	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S089	Sign check	Aerial	-18.6585514	133.3441854	Sandplain	Acacia open shrubland		Not bilby	Not bilby	NA	NA	Sand Goanna sign confirmed via aerial observation / hover
S090	Sign check	Aerial, Ground	-18.6382445	133.3445228	Sandplain	Open shrubs, hummock grass	Potential Acacia lysiphloia (currently dead)	Likely	Likely	Burrows x 2 (old)	Old	Burrows considered to be highly likely bilby, but could not confirm due to absence of definitive sign
S091	Sign check	Aerial, Ground	-18.6106463	133.3442885	Sandplain	Open shrubland (Acacia sp. dead) over hummock grass	Acacia lysiphloia (likely)	Confirmed	Confirmed	Fresh tracks, scats, open diggings	Recent	No burrow found but likely present in close proximity
S092	Aerial habitat check	Aerial	-18.6031877	133.3464466	Laterite rise	Acacia hilliana shrubland (patchy)	Acacia hilliana	None observed	NA	NA	NA	
S093	Aerial habitat check	Aerial	-18.5729205	133.3497927	Sandplain	Acacia lysiphloia shrubland (patches)	Acacia lysiphloia	None observed	NA	NA	NA	
S094	Aerial habitat check	Aerial	-18.5539637	133.3470876	Sandplain	Acacia lysiphloia shrubland (patches)	Acacia lysiphloia	None observed	NA	NA	NA	
S095	Aerial habitat check	Aerial	-18.5070738	133.3452531	Depression	Eucalyptus victrix, tussock grasses		None observed	NA	NA	NA	
S096	Sign check	Aerial	-18.4778091	133.3447525	Sandplain	Acacia lysiphloia shrubland	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Goanna sign confirmed via aerial observation / hover
S097	Sign check	Aerial	-18.4630043	133.3444737	Sandplain	Acacia open shrubland		Not bilby	Not bilby	NA	NA	Goanna sign confirmed via aerial observation / hover
S098	Aerial habitat check	Aerial	-18.5413347	133.3528632	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S099	Aerial habitat check	Aerial	-18.5587894	133.3543802	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	Goanna digs observed from air
S100	Sign check	Aerial, Ground	-18.6369258	133.3537496	Sandplain	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)		Likely	Likely	Several open diggings in area, no scat, track or RDL dig found in area. Diggings looks like bilby	Recent	
S101	Aerial habitat check	Aerial	-18.6771883	133.3556375	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S102	Aerial habitat check, sign check	Aerial, Ground	-18.6920345	133.3547563	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	Confirmed	Confirmed	Burrow x 2, RDL digs	Recent	
S103	Sign check	Aerial, Ground	-18.6355866	133.3647623	Sandplain	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Yakirra, Scaevola parviflora	Confirmed	Confirmed	Burrow (2 entrances), Open digs with bilby scats in spoil	Recent	
S104	Sign check	Aerial, Ground	-18.6282709	133.3646819	Sandplain	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Yakirra, Scaevola parviflora, Senna notabilis	Confirmed	Confirmed	Burrow x 1, open digs, scats	Fresh	
S105	Sign check	Aerial, Ground	-18.6246166	133.3650553	Sandplain	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)	Scaevola parviflora	Likely	Likely	Burrow x 1, likely bilby. RDL digs in the wider area	Fresh	
S106	Sign check	Aerial	-18.6093955	133.3618516	Laterite rise	Acacia hilliana shrubland	Acacia hilliana, Acacia lysiphloia, Senna notabilis	Not bilby	Not bilby	NA	NA	Goanna sign
S107	Aerial habitat check, sign check	Aerial	-18.6073839	133.3626627	Laterite rise	Acacia hilliana shrubland	Acacia hilliana, Acacia lysiphloia, Senna notabilis	Confirmed	Confirmed	Large burrow (x1) and numerous RDL digs in area (seen by hovering helicopter)	Fresh	Goanna sign also present
S108	Sign check	Aerial	-18.598	133.3639182	Sandplain	Grassland (tussock grass and spinifex); scattered shrubs (Acacia sp. dead)		Likely	Likely	Old burrow (x1), no sign of RDL digs during aerial inspection, no ground inspection occurred at site	Old	
S109	Aerial habitat check	Aerial	-18.5530876	133.3660009	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S110	Aerial habitat check	Aerial	-18.5493029	133.3637436	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S111	Aerial habitat check	Aerial	-18.5067907	133.3614419	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S112	Sign check	Aerial	-18.5005143	133.365448	Sandplain	Open shrubs	Acacia lysiphloia	Confirmed	Confirmed	Burrow (x2), open digs, RDL digs	Fresh	
S113	Sign check	Aerial	-18.4897608	133.3659258	Sandplain	Open shrubs	Acacia lysiphloia	Confirmed	Confirmed	Burrow (x1), numerous RDL digs with relatively fresh spoil	Recent	
S114	Aerial habitat check	Aerial	-18.4536088	133.3818994	Sandplain	Open shrubs (recently burnt patch)	Yakirra	None observed	NA	NA	NA	Recently burnt but very little fire ephemeral regrowth present
S115	Sign check	Aerial	-18.4712577	133.3826358	Sandplain	Open shrubs	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Sign confirmed to be goanna
S116	Sign check	Aerial	-18.493741	133.3826128	Sandplain	Open shrubland (Acacia sp.) over spinifex	Acacia lysiphloia (mostly likely)	Likely	Likely	Burrow (x1). Couldn't land close by to confirm. No RDL digs observed during aerial inspection of site	Old	
S117	Sign check	Aerial	-18.5094139	133.3829166	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed to be goanna
S118	Sign check	Aerial	-18.5118569	133.3834575	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed to be goanna
S119	Sign check	Aerial	-18.5213914	133.382992	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed to be goanna
S120	Aerial habitat check	Aerial	-18.6137879	133.3858819	Depression	Eucalyptus victrix, Corymbia flavescens		None observed	NA	NA	NA	
S121	Sign check	Aerial, Ground	-18.6542535	133.3837316	Sandplain	Open Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x1), RDL digs	Old	
S122	Sign check	Aerial	-18.6589327	133.3834173	Sandplain	Open shrubland (Acacia sp., dead, burnt)	Acacia lysiphloia (mostly likely)	Likely	Likely	Burrow (x1)	Old	
S123	Sign check	Aerial	-18.6623657	133.3832105	Sandplain	Open shrubland (Acacia sp., dead, burnt)	Acacia lysiphloia (mostly likely)	Likely	Likely	Burrow (x1), open digs, RDL digs	Recent	
S124	Sign check	Aerial	-18.6644556	133.3836222	Sandplain	Open shrubland (Acacia sp., dead, burnt) (likely A. lysiphloia)	Acacia lysiphloia (likely)	Confirmed	Confirmed	Burrow (x1), tracks, RDL digs	Fresh	
S125	Sign check	Aerial	-18.6877095	133.3837531	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S126	Sign check	Aerial	-18.6860554	133.3916759	Sandplain	Open Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x1), RDL digs	Old	
S127	Sign check	Aerial	-18.6837806	133.3913845	Sandplain	Open Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x2), RDL seen during aerial survey, relatively fresh	Recent	
S128	Sign check	Aerial	-18.6808217	133.3917573	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S129	Sign check	Aerial	-18.6788132	133.391701	Sandplain	Open Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x2), RDL digs, open digs	Recent	
S130	Sign check	Aerial	-18.6722171	133.3919137	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S131	Sign check	Aerial	-18.6610295	133.3919439	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S132	Aerial habitat check	Aerial	-18.5917039	133.3906403	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S133	Aerial habitat check, sign check	Aerial	-18.5790507	133.3912104	Laterite rise	Acacia hilliana shrubland, spinifex	Acacia hilliana	Confirmed	Confirmed	Burrows (at least 3), open digs, RDL digs (A. hilliana)	Recent	Sign positively confirmed via hovering, landing not required
S134	Sign check	Aerial	-18.5730198	133.3920475	Laterite rise	Acacia hilliana shrubland, spinifex	Acacia lysiphloia	Confirmed	Confirmed	Burrow (x1), RDL digs	Old	
S135	Sign check	Aerial	-18.5703979	133.392075	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	Confirmed	Confirmed	Burrow (x1), RDL digs	Old	
S136	Sign check	Aerial	-18.5675093	133.3918074	Sandplain	Open shrubs	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S137	Ground habitat check	Aerial, Ground	-18.5165286	133.3888264	Sandplain	Open Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	
S138	Sign check	Aerial	-18.5068396	133.392194	Sandplain	Open shrubs	Acacia torulosa	Likely	Likely	Large maintained burrow (x1) with fresh spoil. No RDL digs seen in area but burrow is highly likely bilby	Fresh	
S139	Sign check	Aerial	-18.5032001	133.3930891	Sandplain	Open shrubs	Acacia torulosa	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S140	Sign check	Aerial	-18.4953984	133.3928608	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S141	Aerial habitat check, sign check	Aerial	-18.4567526	133.3934662	Sandplain	Open shrubs (recently burnt patch)	Acacia lysiphloia (mostly likely), Yakirra	Likely	Likely	Old burrow (x1) highly likely bilby, could not confirm due to absence of definitive sign	Old	Goanna sign also present
S142	Sign check	Aerial	-18.4789707	133.4029202	Sandplain	Open to patchy Acacia shrubs	Acacia lysiphloia (mostly likely)	Likely	Likely	Burrows (x3) (old and recent)	Recent	
S143	Sign check	Aerial	-18.493118	133.4028641	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S144	Aerial habitat check	Aerial	-18.520414	133.4029421	Sandplain	Open shrubs (recently burnt patch)		None observed	NA	NA	NA	
S145	Aerial habitat check	Aerial	-18.5685511	133.4013148	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S146	Aerial habitat check	Aerial	-18.5770174	133.4071507	Laterite rise	Scattered Acacia hilliana, tussock grass	Acacia hilliana	None observed	NA	NA	NA	
S147	Ground habitat check	Aerial, Ground	-18.5847829	133.408546	Laterite rise	Low shrubland	Acacia hilliana, Acacia monticola	None observed	NA	NA	NA	
S148	Aerial habitat check	Aerial	-18.6096757	133.4031422	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S149	Sign check	Aerial	-18.6647864	133.4121194	Sandplain	Open to patchy Acacia shrubs	Acacia lysiphloia (mostly likely)	Likely	Likely	Large burrow (x1), no sign of RDL digs during aerial inspection,	Old	
S150	Aerial habitat check	Aerial	-18.6276524	133.4113636	Sandplain	Acacia lysiphloia patch (young)	Acacia lysiphloia	None observed	NA	NA	NA	
S151	Aerial habitat check	Aerial	-18.5719802	133.4118606	Laterite rise	Scattered Acacia hilliana,	Acacia hilliana,	None observed	NA	NA	NA	
S152	Sign check	Aerial	-18.5337556	133.4127972	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S153	Ground habitat check	Aerial, Ground	-18.4743178	133.4284085	Depression	Scattered Melaleuca, tussock grass		None observed	NA	NA	NA	
S154	Sign check	Aerial	-18.5308685	133.4245756	Sandplain	Open shrubs	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S155	Sign check	Aerial	-18.5454053	133.4249019	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S156	Aerial habitat check, sign check	Aerial	-18.5771971	133.4203862	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	Not bilby	NA	NA	Goanna sign observed
S157	Sign check	Aerial	-18.5842716	133.4244939	Sandplain	Acacia shrubland	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S158	Sign check	Aerial	-18.5920522	133.4244671	Laterite rise	Acacia hilliana shrubland, spinifex	Acacia hilliana	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S159	Aerial habitat check, sign check	Aerial	-18.6307977	133.4229321	Sandplain	Acacia lysiphloia patch (young)	Acacia lysiphloia	None observed	Not bilby	NA	NA	Goanna sign observed
S160	Aerial habitat check	Aerial	-18.6345982	133.434307	Laterite rise	Acacia hilliana shrubland, spinifex	Acacia hilliana	None observed	NA	NA	NA	
S161	Aerial habitat check	Aerial	-18.619869	133.43704	Rocky hill	Open Snappy Gum, spinifex, patchy Acacia and Grevillea shrubs	Acacia hilliana, Acacia monticola	None observed	NA	NA	NA	
S162	Sign check	Aerial	-18.5321059	133.4355135	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S163	Sign check	Aerial	-18.5269642	133.4354576	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S164	Sign check	Aerial	-18.524251	133.4354292	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S165	Sign check	Aerial	-18.5116057	133.4348969	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S166	Aerial habitat check	Aerial	-18.4799757	133.437369	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S167	Ground habitat check	Aerial, Ground	-18.4820389	133.4454944	Sandplain	Acacia lysiphloia patch (dead)	Acacia lysiphloia	None observed	NA	NA	NA	
S168	Sign check	Aerial	-18.5300532	133.4448945	Sandplain	Open shrubs		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S169	Aerial habitat check	Aerial	-18.6088888	133.4464612	Laterite rise	Acacia hilliana shrubland, spinifex	Acacia hilliana, Acacia lysiphloia	None observed	NA	NA	NA	
S170	Sign check	Aerial, Ground	-18.6829445	133.4447691	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x1), RDL digs	Recent	
S171	Sign check	Aerial	-18.6880003	133.4443019	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x1), RDL digs, digs in open	Recent	
S172	Sign check	Aerial	-18.6767152	133.4541299	Sandplain	Open Acacia torulosa shrubland	Acacia torulosa	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S173	Aerial habitat check	Aerial	-18.6662	133.4546972	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S174	Aerial habitat check	Aerial	-18.6092217	133.4544731	Laterite rise	Acacia hilliana shrubland	Acacia hilliana	None observed	NA	NA	NA	
S175	Aerial habitat check	Aerial	-18.491789	133.454302	Sandplain	Acacia stipuligera, A. lysiphloia shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S176	Sign check	Aerial	-18.4928959	133.4622643	Sandplain	Acacia open shrubland		Not bilby	Not bilby	NA	NA	
S177	Aerial habitat check, Track-plot	Aerial, Ground	-18.5927944	133.4650889	Depression	Melaleuca open shrubs, tussock grass		None observed	NA	NA	NA	TrackPlot8.
S178	Aerial habitat check, sign check	Aerial, Ground	-18.625301	133.4615779	Laterite rise	Acacia hilliana and A. monticola shrubland	Acacia hilliana, Acacia monticola	Confirmed	Confirmed	RDL digs	Old	Bilby sign not observed during aerial survey
S179	Sign check	Aerial	-18.6380223	133.4634943	Sandplain	Acacia open shrubland		Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S180	Aerial habitat check	Aerial	-18.6547979	133.4644439	Laterite rise	Scattered shrubs, spinifex, tussocks	Acacia hilliana, A. monticola	None observed	NA	NA	NA	
S181	Aerial habitat check	Aerial	-18.6682579	133.4619824	Laterite rise	Acacia hilliana open patchy shrubland	Acacia hilliana	None observed	NA	NA	NA	
S182	Sign check	Aerial	-18.6933369	133.4638572	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Not bilby	Not bilby	NA	NA	Sign confirmed from air to be goanna
S183	Sign check	Aerial	-18.6929467	133.4736273	Sandplain	Acacia torulosa shrubland, A. stipuligera	Acacia torulosa	Likely	Likely	Burrow (x1)	Old	Could not land to confirm due to dense vegetation
S184	Aerial habitat check	Aerial	-18.6501951	133.4761807	Sandplain	Acacia open shrubland		None observed	NA	NA	NA	
S185	Aerial habitat check, sign check, Track-plot	Aerial, Ground	-18.645488	133.476894	Depression	Open shrubland (Acacia sp., mostly dead, most likely A. stipuligera)	Acacia lysiphloia (mostly likely)	Likely	Likely	Burrow x1 (old large)	Old	TrackPlot9.
S186	Sign check	Aerial, Ground	-18.6454423	133.4768683	Sandplain	Acacia open shrubland	Yakirra	Likely	Likely	Burrow (x1)	Old	
S187	Sign check	Aerial, Ground	-18.6253862	133.4805434	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow x 4, RDL digs	Old	
S188	Aerial habitat check	Aerial	-18.59318	133.4775279	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	
S189	Aerial habitat check	Aerial	-18.5291287	133.4783963	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S190	Goanna sign check	Aerial, Ground	-18.5566035	133.4858331	Sandplain	Acacia shrubs and Melaleuca		Not bilby	Goanna sign ground verified	NA	NA	Ground verified as goanna burrow and digs (assumed Sand Goanna)
S191	Aerial habitat check	Aerial	-18.5997879	133.4832632	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	
S192	Sign check	Aerial	-18.6186031	133.4826864	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Likely	Likely	Burrow (x1) likely bilby, low level aerial check did not record any other sign	Old	
S193	Sign check	Aerial	-18.6287125	133.4864175	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Not bilby	Not bilby	NA	NA	Hover check confirmed to be termite mound
S194	Aerial habitat check, Track-plot	Aerial, Ground	-18.641157	133.481361	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	TrackPlot10.
S195	Sign check	Aerial, Ground	-18.6512375	133.4850658	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrows (x3), numerous open digs, RDL digs, tracks	Recent	
S196	Sign check	Aerial	-18.6873214	133.4851807	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrow (x1), RDL digs	Recent	Landing difficult in area, hover check found RDL digs
S197	Sign check	Aerial	-18.691441	133.4865287	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Confirmed	Confirmed	Burrows (x2), RDL digs	Recent	
S198	Sign check	Aerial	-18.6882329	133.4958096	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Not bilby	Not bilby	NA	NA	Hover check confirmed to be termite mound

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S199	Aerial habitat check	Aerial	-18.6813487	133.4971129	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	
S200	Aerial habitat check	Aerial	-18.6750948	133.4982136	Laterite rise	Acacia hilliana low shrubland, Acacia lysiphloia on edge	Acacia hilliana, Acacia lysiphloia	None observed	NA	NA	NA	
S201	Aerial habitat check	Aerial	-18.6679857	133.4972056	Laterite rise	Acacia hilliana low open / scattered shrubs and Bloodwood	Acacia hilliana	None observed	NA	NA	NA	
S202	Sign check	Aerial	-18.6560093	133.4978145	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Not bilby	Not bilby	NA	NA	Confirmed for air to be goanna (likely Sand Goanna)
S203	Aerial habitat check	Aerial	-18.5881867	133.5094143	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	
S204	Aerial habitat check, sign check	Aerial	-18.6362498	133.5063012	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	Not bilby	NA	NA	Goanna sign present
S205	Aerial habitat check, sign check, Track-plot	Aerial, Ground	-18.6455083	133.5033861	Laterite rise	Acacia hilliana and A. monticola shrubland	Acacia hilliana, A. monticola	Confirmed	Confirmed	RDL digs (all old), old burrow not found but assumed to be close by	Old	TrackPlot11. Bilby sign not observed from helicopter
S206	Aerial habitat check, sign check	Aerial	-18.6778237	133.505664	Laterite rise	Acacia hilliana and A. monticola shrubland	Acacia hilliana, A. monticola	None observed	Not bilby	NA	NA	Goanna sign present
S207	Aerial habitat check	Aerial	-18.6921366	133.5103625	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	NA	NA	NA	
S208	Aerial habitat check	Aerial	-18.6459892	133.5179642	Sandplain	Acacia patch		None observed	NA	NA	NA	
S209	Sign check	Aerial, Ground	-18.6355075	133.5170844	Sandplain	Open shrubland over spinifex and scattered tussock grasses		Confirmed	Confirmed	Burrow (x2), open digs, tracks	Fresh	
S210	Aerial habitat check	Aerial	-18.6284714	133.5156837	Sandplain	Acacia stipuligera patch		None observed	NA	NA	NA	
S211	Aerial habitat check	Aerial	-18.6096411	133.5312202	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S212	Sign check	Aerial	-18.6853197	133.5286031	Sandplain	Acacia torulosa shrubland with Corymbia setosa	Acacia torulosa	Not bilby	Not bilby	NA	NA	Aerial inspection confirmed as spoil heap only (likely ants)
S213	Aerial habitat check, sign check	Aerial	-18.645386	133.5386348	Sandplain	Acacia torulosa shrubland	Acacia torulosa	None observed	Not bilby	NA	NA	Goanna sign observed
S214	Aerial habitat check	Aerial	-18.6190883	133.5417183	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S215	Aerial habitat check	Aerial	-18.6185778	133.556116	Sandplain	Acacia lysiphloia patch	Acacia lysiphloia	None observed	NA	NA	NA	
S216	Aerial habitat check	Aerial	-18.6306008	133.5552137	Laterite rise	Recent fire scar, patchy Acacia hilliana	Acacia hilliana	None observed	NA	NA	NA	
S217	Sign check	Aerial	-18.6502227	133.551361	Sandplain	Acacia shrubland		Not bilby	Not bilby	NA	NA	Goanna sign
S218	Sign check	Aerial	-18.6579617	133.5636368	Sandplain	Acacia shrubland	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Hover check confirmed to be termite mound
S219	Aerial habitat check, sign check	Aerial	-18.6490019	133.5636104	Sandplain	Acacia open shrubland	Acacia lysiphloia	None observed	Not bilby	NA	NA	Goanna sign observed
S220	Aerial habitat check	Aerial	-18.6439896	133.5678158	Laterite rise	Acacia low open shrubland	Acacia hilliana	None observed	NA	NA	NA	
S221	Aerial habitat check	Aerial	-18.6258343	133.5665385	Laterite rise	Acacia low open shrubland	Acacia hilliana	None observed	NA	NA	NA	
S222	Aerial habitat check	Aerial	-18.6268296	133.5748307	Laterite rise	Acacia low open shrubland, Snappy Gum	Acacia hilliana, Acacia monticola, Senna notabilis	None observed	NA	NA	NA	
S223	Sign check	Aerial, Ground	-18.6610511	133.5729647	Sandplain	Acacia shrubland	Acacia torulosa	Likely	Likely	Burrow x 1, open digs - considered highly likely to be bilby	Recent	
S224	Sign check	Aerial, Ground	-18.6361345	133.5855158	Laterite rise	Acacia low open shrubland	Acacia hilliana	Confirmed	Confirmed	Burrow x 1, RDL digs	Fresh	
S225	Sign check	Aerial	-18.6277665	133.584385	Laterite rise	Acacia low open shrubland	Acacia hilliana, Senna notabilis	Confirmed	Confirmed	RDL digs with fresh spoil, burrow could not be located during aerial checks	Fresh	
S226	Sign check	Aerial	-18.6222347	133.5836959	Laterite rise	Acacia low open shrubland	Acacia hilliana, Senna notabilis	Not bilby	Not bilby	NA	NA	
S227	Sign check	Aerial	-18.6050998	133.5848327	Sandplain	Grassland, scattered shrubs		Not bilby	Not bilby	NA	NA	Goanna sign
S228	Sign check	Aerial	-18.6120608	133.5953458	Sandplain	Acacia lysiphloia patchy shrubland	Acacia lysiphloia	Not bilby	Not bilby	NA	NA	Goanna sign
S229	Aerial habitat check	Aerial	-18.6321355	133.5968801	Laterite rise	Acacia low open shrubland	Acacia hilliana, Senna notabilis	None observed	NA	NA	NA	
S230	Sign check	Aerial	-18.6750244	133.5975103	Plain	Acacia shrubland		Not bilby	Not bilby	NA	NA	Goanna sign
S231	Sign check	Aerial	-18.6862818	133.5974494	Sandplain	Acacia torulosa shrubland	Acacia torulosa	Not bilby	Not bilby	NA	NA	Goanna sign
S232	Aerial habitat check	Aerial	-18.6673	133.6060726	Laterite rise	Acacia low open shrubland	Acacia hilliana, Senna notabilis	None observed	NA	NA	NA	
S233	Sign check	Aerial	-18.6533441	133.6076963	Plain	Acacia shrubland		Not bilby	Not bilby	NA	NA	Goanna sign
S234	Aerial habitat check	Aerial	-18.6415547	133.6064834	Sandplain	Acacia lysiphloia patchy shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S235	Goanna sign check	Aerial, Ground	-18.63989	133.610211	Sandplain	Acacia lysiphloia patchy shrubland	Acacia lysiphloia	Not bilby	Goanna sign ground verified	NA	NA	Goanna sign, ground verified

GREATER BILBY SURVEY SITE DATA												
Site ID	Site type	Observation type	Latitude	Longitude	Landform	Vegetation	Bilby food species	Bilby presence	Sign check result	Bilby sign	Sign age	Other notes
S236	Aerial habitat check	Aerial	-18.6238364	133.6061012	Sandplain	Acacia lysiphloia patchy shrubland	Acacia lysiphloia	None observed	NA	NA	NA	
S237	Aerial habitat check	Aerial	-18.6268234	133.6188663	Laterite rise	Acacia hilliana low open shrubland, Snappy Gum, Silver Box	Acacia hilliana, Senna notabilis	None observed	NA	NA	NA	
S238	Goanna sign check	Aerial, Ground	-18.6503888	133.618816	Plain	Low open woodland		Not bilby	Goanna sign ground verified	NA	NA	Large goanna sign (likely Yellow Spotted Monitor), ground verified
S239	Sign check	Aerial	-18.6585081	133.6185659	Plain	Low open woodland		Not bilby	Not bilby	NA	NA	Large goanna sign (likely Yellow Spotted Monitor), aerial verified via hover
S240	Aerial habitat check	Aerial	-18.6244466	133.6273115	Laterite rise	Acacia hilliana low open shrubland	Acacia hilliana, Senna notabilis	None observed	NA	NA	NA	
S241	Aerial habitat check	Aerial	-18.6096097	133.6385387	Low rocky hill	Scattered Corymbia dichromophloia over Acacia shrubs	Acacia monticola, Acacia torulosa	None observed	NA	NA	NA	
S242	Sign check	Aerial	-18.6467737	133.6365841	Plain	Acacia shrubland		Not bilby	Not bilby	NA	NA	Goanna sign
S243	Sign check	Aerial, Ground	-18.6733534	133.6492192	Laterite rise	Acacia monticola shrubland	Acacia monticola, Yakirra	Confirmed	Confirmed	Burrow x 2, RDL digs	Old	
S244	Sign check	Aerial, Ground	-18.6530519	133.6637353	Lateritic plain	Scattered Acacia shrubs	Senna notabilis, Acacia sp.	Likely	Likely	Burrow (x2) shape indicates bilby. RDL digs (Senna notabilis)	Old	
S245	Sign check	Aerial	-18.6650461	133.6641958	Lateritic plain	Scattered Acacia shrubs	Senna notabilis, Acacia torulosa, Yakirra	Likely	Likely	Numerous large burrows (at least 5) in area characteristic of bilby, open digs observed, no RDL digs found	Fresh	

APPENDIX F GREATER BILBY SURVEY RECORDS

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S001	3/06/2025	-18.456865	133.62442	354746	7958715	Aerial sighting, ground verified	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	Burrow	Single entrance, partially collapsed
S001	3/06/2025	-18.456865	133.62442	354746	7958715	Aerial sighting, ground verified	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S001	3/06/2025	-18.456897	133.62374	354674	7958711	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S001	3/06/2025	-18.456709	133.62397	354698	7958732	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S001	3/06/2025	-18.456675	133.624126	354715	7958736	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	Burrow	Single entrance, partially collapsed
S001	3/06/2025	-18.456675	133.624126	354715	7958736	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S001	3/06/2025	-18.457172	133.624692	354775	7958682	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	3 x RDL diggings observed
S001	3/06/2025	-18.456726	133.624017	354703	7958730	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S003	3/06/2025	-18.477483	133.625287	354855	7956434	Aerial sighting, ground verified	Sandplain with Acacia lysiphloia (dead)	Likely	Old	Burrow	Burrows highly likely bilby. No RDL diggings or other definitive sign found.
S003	3/06/2025	-18.476278	133.624678	354789	7956567	Aerial	Sandplain with Acacia lysiphloia (dead)	Likely	Old	Burrow	Burrows highly likely bilby. No RDL diggings or other definitive sign found.
S026	4/06/2025	-18.411361	133.532432	344990	7963675	Ground	Sandplain with Acacia lysiphloia (dead)	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S026	4/06/2025	-18.411429	133.532699	345018	7963668	Ground	Sandplain with Acacia lysiphloia	Confirmed	Old	RDL Digging (Acacia lysiphloia)	2 x RDL diggings observed
S026	4/06/2025	-18.411492	133.532733	345022	7963661	Aerial sighting, ground verified	Sandplain with Acacia lysiphloia	Confirmed	Old	Burrow	Single entrance, partially collapsed

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S026	4/06/2025	-18.411893	133.532927	345043	7963617	Ground	Sandplain with Acacia lysiphloia	Confirmed	Old	RDL Digging (Acacia lysiphloia)	2 x RDL diggings observed
S026	4/06/2025	-18.411764	133.533675	345122	7963631	Aerial	Sandplain with Acacia lysiphloia and A. stipuligera	Confirmed	Old	Burrow	Single entrance, partially collapsed
S053	4/06/2025			338879	7972395	Aerial	Sandplain with Acacia lysiphloia	Likely	Old	Burrow	Burrows on track (old), Fenceline track, cat tracks, dog tracks, burrows assumed to be bilby due to shape but could not land in area to confirm due to RWA access conditions
S081	4/06/2025	-18.697979	133.348034	325800	7931785	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	Acacia lysiphloia and Senna notabilis also present in area
S081	4/06/2025	-18.697983	133.348074	325804	7931784	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	Burrow has 2 entrances
S081	4/06/2025	-18.697983	133.348074	325804	7931784	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	Senna notabilis also present in area
S082	4/06/2025	-18.697853	133.348705	325871	7931799	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S082	4/06/2025	-18.697968	133.348061	325803	7931786	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S082	4/06/2025	-18.697765	133.348008	325797	7931808	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S082	4/06/2025	-18.697858	133.347961	325792	7931798	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	Burrow has 2 entrances
S082	4/06/2025	-18.697858	133.347961	325792	7931798	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S084	4/06/2025	-18.685975	133.33987	324927	7933105	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S084	4/06/2025	-18.686164	133.339685	324907	7933084	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S084	4/06/2025	-18.686327	133.33961	324900	7933066	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S084	4/06/2025	-18.686327	133.33964	324903	7933066	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	3 x RDL diggings observed
S084	4/06/2025	-18.686234	133.339728	324912	7933077	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	multiple old diggings under A. hilliana

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S084	4/06/2025	-18.686234	133.339728	324912	7933077	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S085	4/06/2025	-18.690176	133.352083	326219	7932652	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia lysiphloia)	Acacia hilliana and Senna notabilis also present in area
S085	4/06/2025	-18.690327	133.351953	326206	7932635	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia lysiphloia)	Acacia hilliana also present in area
S085	4/06/2025	-18.690443	133.352865	326302	7932624	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Recent	Burrow	RDL diggings in surrounds.
S085	4/06/2025	-18.690443	133.352865	326302	7932624	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia hilliana)	
S085	4/06/2025	-18.690443	133.352865	326302	7932624	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia lysiphloia)	
S085	4/06/2025	-18.690232	133.353116	326328	7932647	Ground	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia lysiphloia)	
S085	4/06/2025	-18.690219	133.353143	326331	7932649	Ground	Laterite rise with Acacia hilliana	Confirmed	Fresh	Open diggings	Spider forage likely
S085	4/06/2025	-18.690219	133.353143	326331	7932649	Ground	Laterite rise with Acacia hilliana	Confirmed	Fresh	Scats	3 scats found in open digging spoil
S085	4/06/2025	-18.690219	133.353143	326331	7932649	Ground	Laterite rise with Acacia hilliana	Confirmed	Fresh	Tracks	Tracks in vicinity of open diggings
S085	4/06/2025	-18.690352	133.352786	326294	7932634	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S085	4/06/2025	-18.690516	133.35298	326314	7932616	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	8 x RDL diggings observed
S085	4/06/2025	-18.690437	133.353099	326327	7932624	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	2 x RDL diggings observed
S085	4/06/2025	-18.690869	133.353108	326328	7932577	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S085	4/06/2025	-18.691175	133.353048	326322	7932543	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S085	4/06/2025	-18.691188	133.353367	326356	7932542	Ground	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia hilliana)	
S085	4/06/2025	-18.691327	133.352959	326313	7932526	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	Single entrance, partially collapsed
S085	4/06/2025	-18.691327	133.352959	326313	7932526	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S090	5/06/2025	-18.637984	133.344463	325362	7938421	Aerial	Sandplain with scattered shrubs (dead)	Likely	Old	Burrow	Burrow considered to be highly likely bilby, but could not confirm due to absence of definitive sign
S090	5/06/2025	-18.638529	133.344712	325389	7938361	Aerial	Sandplain with scattered shrubs (dead)	Likely	Old	Burrow	Burrow considered to be highly likely bilby, but could not confirm due to absence of definitive sign
S091	5/06/2025	-18.610661	133.344672	325356	7941446	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Recent	Scats	Scats and tracks found in area, but no diggings or burrow found. Burrow expected to be closeby
S091	5/06/2025	-18.610545	133.344233	325310	7941458	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Fresh	Tracks	Scats and tracks found in area, but no diggings or burrow found. Burrow expected to be closeby
S100	5/06/2025	-18.636976	133.353835	326350	7938542	Aerial sighting, ground verified	Sandplain with scattered shrubs	Likely	Recent	Open diggings	Several open diggings in area, no scat, track or RDL dig found in area. Diggings looks like bilby
S102	5/06/2025	-18.692107	133.354495	326476	7932441	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S102	5/06/2025	-18.692122	133.354617	326488	7932439	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S102	5/06/2025	-18.692345	133.354516	326478	7932415	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	Old RDL diggings common in area
S102	5/06/2025	-18.692028	133.353585	326380	7932449	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S102	5/06/2025	-18.691245	133.354096	326433	7932536	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	Old RDL diggings common in area
S102	5/06/2025	-18.691245	133.354096	326433	7932536	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S102	5/06/2025	-18.691245	133.354096	326433	7932536	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S102	5/06/2025	-18.691905	133.353956	326419	7932463	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	
S102	5/06/2025	-18.691647	133.353964	326419	7932491	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	2 x RDL diggings observed
S102	5/06/2025	-18.691174	133.353854	326407	7932544	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	14 x RDL diggings observed
S102	5/06/2025	-18.690807	133.353894	326411	7932584	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	3 x RDL diggings observed

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S102	5/06/2025	-18.69073	133.35496	326523	7932594	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	2 x RDL diggings observed
S103	5/06/2025	-18.635677	133.364864	327512	7938697	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Recent	Burrow	Burrow has 2 entrances. Open digs with bilby scats in spoil seen in close proximity
S103	5/06/2025	-18.635534	133.364746	327500	7938712	Ground	Sandplain with scattered shrubs	Confirmed	Fresh	Tracks	Open digs with bilby scats in spoil seen in close proximity
S103	5/06/2025			327471	7938674	Ground	Sandplain with scattered shrubs	Confirmed	Recent	Open diggings	
S103	5/06/2025			327471	7938674	Ground	Sandplain with scattered shrubs	Confirmed	Recent	Scats	3 x recent scats found in spoil
S104	5/06/2025	-18.628415	133.364756	327494	7939500	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Recent	Open diggings	
S104	5/06/2025	-18.628415	133.364756	327494	7939500	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Recent	Scats	2 x recent scats found in spoil
S104	5/06/2025	-18.628289	133.364438	327460	7939514	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Fresh	Burrow	
S104	5/06/2025	-18.628289	133.364438	327460	7939514	Aerial sighting, ground verified	Sandplain with scattered shrubs	Confirmed	Fresh	Scats	a few scats found in burrow spoil
S105	5/06/2025	-18.624623	133.365028	327518	7939920	Aerial	Sandplain with scattered shrubs	Likely	Fresh	Burrow	Burrow highly likely bilby. Aerial inspection of area did not find RDL digs however they have been seen in the wider area. Several burrows in area and open digs
S107	5/06/2025	-18.606902	133.361476	327126	7941878	Aerial	Laterite rise with Acacia hilliana	Confirmed	Fresh	Burrow	Large burrow and numerous RDL digs in area (seen by hovering helicopter)
S107	5/06/2025	-18.606902	133.361476	327126	7941878	Aerial	Laterite rise with Acacia hilliana	Confirmed	Fresh	RDL Digging (Acacia hilliana)	
S107	5/06/2025	-18.606902	133.361476	327126	7941878	Aerial	Laterite rise with Acacia hilliana	Confirmed	Fresh	RDL Digging (Acacia lysiphloia)	
S108	5/06/2025	-18.598024	133.363971	327380	7942863	Aerial	Sandplain with scattered shrubs	Likely	Old	Burrow	Old burrow, no sign of RDL digs during aerial inspection, no ground inspection occurred at site

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S112	5/06/2025	-18.500504	133.365333	327426	7953658	Aerial	Sandplain with scattered shrubs	Confirmed	Old	Burrow	Old large burrow. Couldnt land due to dense shrubs. No RDL digs observed during aerial inspection. Acacia lysiphloia in area
S112	5/06/2025	-18.500439	133.365599	327454	7953665	Aerial	Sandplain with scattered shrubs	Confirmed	Fresh	Burrow	RDL digs (A. lysiphloia) and open digs clearly observed during aerial survey. multiple burrows and diggings in area
S112	5/06/2025	-18.500439	133.365599	327454	7953665	Aerial	Sandplain with scattered shrubs	Confirmed	Fresh	Open diggings	
S112	5/06/2025	-18.500439	133.365599	327454	7953665	Aerial	Sandplain with scattered shrubs	Confirmed	Fresh	RDL Digging (Acacia lysiphloia)	
S113	5/06/2025	-18.489793	133.365954	327481	7954844	Aerial	Sandplain with Acacia stipuligera open shrubland	Confirmed	Recent	Burrow	RDL digs in area
S113	5/06/2025	-18.489793	133.365954	327481	7954844	Aerial	Sandplain with Acacia stipuligera open shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	multiple diggings in area
S113	5/06/2025	-18.489793	133.365954	327481	7954844	Aerial	Sandplain with Acacia stipuligera open shrubland	Confirmed	Recent	RDL Digging (Acacia lysiphloia)	multiple diggings in area
S116	5/06/2025	-18.49373	133.382658	329249	7954424	Aerial	Sandplain with scattered shrubs	Likely	Old	Burrow	Couldnt easily land closeby to confirm. No RDL digs observed during aerial inspection of site
S121	5/06/2025	-18.654299	133.383863	329535	7936654	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S121	5/06/2025	-18.654037	133.383687	329517	7936683	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	Burrow	Burrow likely from this season with diggings in vicinity.
S121	5/06/2025	-18.654037	133.383687	329517	7936683	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S122	5/06/2025	-18.658933	133.383417	329493	7936140	Aerial	Sandplain with scattered shrubs	Likely	Old	Burrow	Old large burrow. Couldn't land due to dense shrubs. No RDL digs observed during aerial inspection.

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S123	5/06/2025	-18.662366	133.383211	329475	7935760	Aerial	Sandplain with scattered shrubs	Likely	Recent	Burrow	Highly likely bilby. However, aerial inspection did not find RDL digs or other definitive sign. Multiple openm diggings in area. Could not easily land closeby to site
S123	5/06/2025	-18.662366	133.383211	329475	7935760	Aerial	Sandplain with scattered shrubs	Likely	Recent	Open diggings	multiple diggings in area
S123	5/06/2025	-18.662366	133.383211	329475	7935760	Aerial	Sandplain with scattered shrubs	Likely	Recent	RDL Digging (Acacia torulosa)	multiple diggings in area
S124	5/06/2025	-18.6644	133.383667	329525	7935536	Aerial	Sandplain with scattered shrubs	Confirmed	Fresh	Burrow	
S124	5/06/2025	-18.6644	133.383667	329525	7935536	Aerial	Sandplain with scattered shrubs	Confirmed	Fresh	Tracks	
S124	5/06/2025	-18.6644	133.383667	329525	7935536	Aerial	Sandplain with scattered shrubs	Confirmed	Fresh	RDL Digging (Acacia torulosa)	
S126	5/06/2025	-18.686055	133.391676	330391	7933146	Aerial	Acacia torulosa shrubland	Confirmed	Old	Burrow	Old RDL digs in area
S126	5/06/2025	-18.686055	133.391676	330391	7933146	Aerial	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	multiple diggings
S126	5/06/2025	-18.686055	133.391676	330391	7933146	Aerial	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia lysiphloia)	multiple diggings
S127	5/06/2025	-18.683781	133.391384	330358	7933398	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow (x2)	RDL seen durng aerial survey, relatively fresh
S127	5/06/2025	-18.683781	133.391384	330358	7933398	Aerial	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	
S129	5/06/2025	-18.678581	133.391792	330396	7933974	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow	
S129	5/06/2025	-18.678581	133.391792	330396	7933974	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Open diggings	
S129	5/06/2025	-18.678581	133.391792	330396	7933974	Aerial	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	
S129	5/06/2025	-18.679016	133.391638	330380	7933926	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow	RDL digs recorded closeby
S133	5/06/2025	-18.578822	133.391548	330271	7945015	Aerial	Laterite rise with Acacia hilliana	Confirmed	Recent	Burrow (multiple)	Multiple burrows and RDL digs (A. hilliana)
S133	5/06/2025	-18.578822	133.391548	330271	7945015	Aerial	Laterite rise with Acacia hilliana	Confirmed	Recent	Open diggings	
S133	5/06/2025	-18.578822	133.391548	330271	7945015	Aerial	Laterite rise with Acacia hilliana	Confirmed	Recent	RDL Digging (Acacia hilliana)	

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S134	5/06/2025	-18.57302	133.392048	330318	7945657	Aerial	Laterite rise with Acacia hilliana	Confirmed	Old	Burrow	Old RDL digs (A. lysiphloia), A. hilliana also present
S134	5/06/2025	-18.57302	133.392048	330318	7945657	Aerial	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S135	5/06/2025	-18.569984	133.391895	330299	7945993	Aerial	Sandplain with Acacia lysiphloia	Confirmed	Old	RDL Digging (Acacia lysiphloia)	Old RDL digs (A. lysiphloia)
S135	5/06/2025	-18.570859	133.391949	330306	7945896	Aerial	Sandplain with Acacia lysiphloia	Confirmed	Old	Burrow	Old RDL digs (A. lysiphloia) in area
S135	5/06/2025	-18.570859	133.391949	330306	7945896	Aerial	Sandplain with Acacia lysiphloia	Confirmed	Old	RDL Digging (Acacia lysiphloia)	
S138	5/06/2025	-18.50684	133.392194	330268	7952982	Aerial	Sandplain with scattered shrubs	Likely	Fresh	Burrow	Large maintained burrow with fresh spoil. No RDL digs seen in area but burrow is highly likely bilby
S141	5/06/2025	-18.45709	133.393832	330392	7958490	Aerial	Sandplain with scattered shrubs	Likely	Old	Burrow	Burnt patch. Old burrow considered to be highly likely bilby, but could not confirm due to absence of definitive sign
S142	5/06/2025	-18.478425	133.402813	331362	7956137	Aerial	Sandplain with scattered shrubs	Likely	Old	Burrow	Old burrow, no sign of RDL digs during aerial inspection, no ground inspection occurred at site
S142	5/06/2025	-18.478971	133.40292	331374	7956077	Aerial	Sandplain with scattered shrubs	Likely	Recent	Burrow (x2)	Large maintained burrow, no sign of RDL digs during aerial inspection, no ground inspection occurred at site
S149	5/06/2025	-18.664786	133.412119	332527	7935520	Aerial	Sandplain with scattered shrubs	Likely	Old	Burrow	Large maintained burrow, no sign of RDL digs during aerial inspection, no ground inspection occurred at site
S170	5/06/2025	-18.682797	133.444969	336009	7933557	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	Multiple diggings in area
S170	5/06/2025	-18.682945	133.444769	335988	7933540	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Recent	Burrow	RDL digs recorded closeby
S171	5/06/2025	-18.688	133.444302	335944	7932980	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow	
S171	5/06/2025	-18.688	133.444302	335944	7932980	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Open diggings	
S171	5/06/2025	-18.688	133.444302	335944	7932980	Aerial	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S178	6/06/2025	-18.625301	133.461578	337707	7939935	Aerial	Laterite rise with Acacia hilliana and A. monticola	Confirmed	Old	RDL Digging (Acacia hilliana)	Dingo tracks present
S178	6/06/2025	-18.625301	133.461578	337707	7939935	Aerial	Laterite rise with Acacia hilliana and A. monticola	Confirmed	Old	RDL Digging (Acacia monticola)	
S183	6/06/2025	-18.692947	133.473627	339042	7932460	Aerial	Acacia stipuligeram Acacia torulosa shrubland	Likely	Old	Burrow	Burrow shape indicates bilby. Ground check did not record any other definitive sign. Yakirra present
S186	6/06/2025	-18.645442	133.476868	339339	7937720	Aerial sighting, ground verified	Sandplain with scattered shrubs	Likely	Old	Burrow	Burrow shape indicates bilby. Ground check did not record any other definitive sign. Yakirra present
S187	6/06/2025	-18.625561	133.479598	339608	7939923	Aerial	Acacia torulosa shrubland	Confirmed	Old	Burrow	
S187	6/06/2025	-18.625751	133.481754	339836	7939904	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S187	6/06/2025	-18.624389	133.480866	339741	7940054	Aerial	Acacia torulosa shrubland	Confirmed	Old	Burrow	
S187	6/06/2025	-18.625846	133.481474	339806	7939893	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	Burrow	
S187	6/06/2025	-18.625846	133.481474	339806	7939893	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S187	6/06/2025	-18.624502	133.480566	339709	7940041	Aerial	Acacia torulosa shrubland	Confirmed	Old	Burrow	
S187	6/06/2025	-18.624502	133.480566	339709	7940041	Aerial	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S192	6/06/2025	-18.618603	133.482686	339928	7940696	Aerial	Acacia torulosa shrubland	Likely	Old	Burrow	Burrow shape indicates bilby. Aerial check did not record any other definitive sign.
S195	6/06/2025	-18.651223	133.485077	340210	7937088	Aerial	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S195	6/06/2025	-18.651152	133.485308	340235	7937096	Ground	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	
S195	6/06/2025	-18.650619	133.484687	340169	7937154	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Recent	Burrow	
S195	6/06/2025	-18.65057	133.484898	340191	7937160	Ground	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S195	6/06/2025	-18.650649	133.484737	340174	7937151	Aerial sighting, ground verified	Acacia shrubland	Confirmed	Recent	Burrow	RDL digs recorded closeby
S195	6/06/2025	-18.651238	133.485066	340209	7937086	Aerial sighting, ground verified	Acacia torulosa shrubland	Confirmed	Old	RDL Digging (Acacia torulosa)	
S195	6/06/2025	-18.651489	133.485005	340203	7937058	Aerial sighting, ground verified	Acacia shrubland	Confirmed	Old	Open diggings	RDL digs recorded closeby
S195	6/06/2025	-18.651567	133.48494	340196	7937049	Ground	Acacia shrubland	Confirmed	Fresh	Tracks	
S195	6/06/2025	-18.651821	133.485245	340229	7937021	Aerial sighting, ground verified	Acacia shrubland	Confirmed	Old	Burrow	RDL digs recorded closeby
S196	6/06/2025	-18.687321	133.485181	340255	7933092	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow (x2)	multiple diggings , 2x burrows
S196	6/06/2025	-18.687321	133.485181	340255	7933092	Aerial	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	
S197	6/06/2025	-18.691176	133.486514	340399	7932667	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow	RDL digs recorded closeby
S197	6/06/2025	-18.691928	133.486365	340384	7932584	Aerial	Acacia torulosa shrubland	Confirmed	Recent	Burrow	
S197	6/06/2025	-18.691928	133.486365	340384	7932584	Aerial	Acacia torulosa shrubland	Confirmed	Recent	RDL Digging (Acacia torulosa)	
S205	6/06/2025	-18.645417	133.503117	342108	7937746	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	3 x diggings in close proximity
S205	6/06/2025	-18.645247	133.502905	342086	7937765	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	3 x diggings in close proximity
S205	6/06/2025	-18.645462	133.502641	342058	7937741	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia monticola)	
S205	6/06/2025	-18.645546	133.503094	342106	7937732	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia hilliana)	Very old digs
S205	6/06/2025	-18.645522	133.503892	342190	7937735	Ground	Laterite rise with Acacia hilliana	Confirmed	Old	RDL Digging (Acacia monticola)	Very old digs
S209	6/06/2025	-18.635495	133.516809	343544	7938856	Aerial sighting, ground verified	Sandplain with scattered Acacia torulosa shrubs	Confirmed	Fresh	Burrow	multiple diggings in open
S209	6/06/2025	-18.635495	133.516809	343544	7938856	Aerial sighting, ground verified	Sandplain with scattered Acacia torulosa shrubs	Confirmed	Fresh	Open diggings	
S209	6/06/2025	-18.635495	133.516809	343544	7938856	Aerial sighting, ground verified	Sandplain with scattered Acacia torulosa shrubs	Confirmed	Fresh	Tracks	

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S209	6/06/2025	-18.635533	133.517375	343603	7938853	Aerial	Sandplain with scattered Acacia torulosa shrubs	Confirmed	Fresh	Burrow	
S209	6/06/2025	-18.635533	133.517375	343603	7938853	Aerial	Sandplain with scattered Acacia torulosa shrubs	Confirmed	Fresh	Tracks	
S223	6/06/2025	-18.661051	133.572965	349491	7936076	Aerial sighting, ground verified	Acacia shrubland	Likely	Old	Burrow	Likely open diggings recorded in area
S223	6/06/2025	-18.661092	133.573061	349501	7936072	Ground	Acacia shrubland	Likely	Recent	Open diggings	Potential only, spoil looks relatively recent but not fresh. no scats found in spoil
S223	6/06/2025			349490	7936038	Ground	Acacia shrubland	Likely	Recent	Open diggings	Several open digs recorded in area. Spoil looks relatively recent but not fresh. No scats found in spoil
S225	6/06/2025	-18.627767	133.584385	350666	7939769	Aerial	Laterite rise with Acacia hilliana	Confirmed	Fresh	RDL Diggings (Senna notabilis)	Numerous diggings under Senna
S243	6/06/2025	-18.673634	133.649544	357579	7934746	Aerial sighting, ground verified	Acacia shrubland	Confirmed	Old	Burrow	RDL digs recorded closeby
S243	6/06/2025	-18.673353	133.649219	357545	7934777	Ground	Laterite rise with Acacia monticola	Confirmed	Old	RDL Digging (Acacia monticola)	5 RDL digs observed in area
S243	6/06/2025	-18.673299	133.649066	357529	7934783	Ground	Laterite rise with Acacia monticola	Confirmed	Old	RDL Digging (Acacia monticola)	
S243	6/06/2025	-18.673347	133.649216	357544	7934778	Ground	Laterite rise with Acacia monticola	Confirmed	Old	RDL Digging (Acacia monticola)	
S243	6/06/2025	-18.673529	133.648622	357482	7934757	Ground	Laterite rise	Confirmed	Old	Burrow	Very large burrow. Multiple entrances. Lots of spoil. Old burrow. Root Digs in area
S243	6/06/2025	-18.673529	133.648622	357482	7934757	Ground	Laterite rise	Confirmed	Old	RDL Digging (Acacia monticola)	
S244	6/06/2025	-18.636134	133.585516	350793	7938844	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Fresh	Burrow	multiple diggings
S244	6/06/2025	-18.636134	133.585516	350793	7938844	Aerial sighting, ground verified	Laterite rise with Acacia hilliana	Confirmed	Fresh	RDL Diggings (Senna notabilis)	multiple diggings

GREATER BILBY RECORDS											
Bilby site ID	Date	Latitude	Longitude	Easting	Northing	Observation	Site description	Bilby presence	Sign age	Sign type	Comment
S244	6/06/2025	-18.653052	133.663735	359059	7937035	Aerial sighting, ground verified	Sandplain with scattered shrubs	Likely	Old	Burrow	Burrow shape indicates bilby. Ground check did not record any other definitive sign. Adjacent to dead shrubs patch (A. stipuligera)
S245	6/06/2025	-18.665046	133.664196	359118	7935708	Aerial	Sandplain with scattered shrubs	Likely	Fresh	Burrow	large burrow and open diggings. Highly likely bilby
S245	6/06/2025	-18.66564	133.664507	359151	7935643	Aerial	Sandplain with scattered shrubs	Likely	Fresh	Burrow	large burrow and open diggings. Highly likely bilby. Multiple diggings
S245	6/06/2025	-18.66564	133.664507	359151	7935643	Aerial	Sandplain with scattered shrubs	Likely	Fresh	Open diggings	
S245	6/06/2025	-18.66486	133.663174	359010	7935728	Aerial	Sandplain with scattered shrubs	Likely	Fresh	Burrow (x3)	Numerous large burrows and open diggings. Highly likely bilby



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