Flora, Vegetation and Fauna Assessment

Barytes Road, Wyndham

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Prepared for Shire of Wyndham - East Kimberley
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Executive Summary

Shire of Wyndham – East Kimberly engaged Emerge Associates to conduct a flora, fauna and vegetation assessment within the Barytes Road reserve and adjoining land owned by Kimberley Ports Authority and Lot 2 owned by Cambridge Gulf Limited (the 'site').

The assessment included a desktop study of the environmental context of the site and the likelihood of occurrence of threatened and priority flora, fauna, and ecological communities. A field survey was conducted on 22 and 24 April 2026 during which the composition and condition of vegetation and fauna habitats was recorded. Data analysis and report preparation was then completed to the standard required of a detailed survey with reference to Environmental Protection Authority (EPA) guidelines.

Outcomes of the assessment include the following:

- A total of 77 native and 14 non-native flora species were recorded within the site.
- Three priority flora species were recorded:
  - *Brachychiton incanus* (priority three in Western Australia (WA))
  - *Dolichandrone filiformis* (P2 in WA)
  - *Goodenia byrnesii* (P3 in WA).
- Eight additional priority flora species have potential to occur in the site.
- Four species listed as a declared pest (C3) pursuant to the State *Biosecurity and Agriculture Management Act 2007* (BAM Act) were recorded: **Calotropis procera, *Jatropha gossypifolia, *Vachellia nilotica* subsp. *indica* and **Azadirachta indica.* Two of these species are also listed as weeds of national significance, *Jatropha gossypifolia* and *Vachellia nilotica* subsp. *indica*
- Five vegetation units were identified which range from 'very good' to 'completely degraded' condition:
  - **Grassland**
  - **Samphire**
  - **Mangrove**
  - **Water body**
  - **Cleared/hardstand/scattered vegetation.**
- No threatened or priority ecological communities were identified within the site.
- Ten native and one non-native fauna species were recorded within the site.
- One species listed as a declared pest (C1) pursuant to the BAM Act was recorded within the site: cane toad (*Rhinella marina*).
- One conservation significant listed fauna species was recorded within the site, saltwater crocodile (*Crocodylus prosus*, listed as migratory under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Western Australia's *Biodiversity Conservation Act 2016*).
- An additional 25 fauna species are likely to occur and 15 fauna species have potential to occur.
- Five broad habitat types were identified within the site:
  - **Grassland**
  - **Saline flats**
  - **Mangrove shrubland**
  - **Water body**

- **Cleared land with scattered vegetation.**

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Abbreviation Tables

Table A1: Abbreviations – Organisations

Organisations	
BoM	Bureau of Meteorology
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DoW	Department of Water (now DWER)
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
SWEK	Shire of Wyndham East Kimberley (SWEK)

Table A2: Abbreviations – General terms

General terms	
A	Annual
CR	Critically endangered
EN	Endangered
IBRA	Interim Biogeographic Regionalisation for Australia
NVIS	National Vegetation Information System (ESCAVI 2003)
P1	Priority 1
P2	Priority 2
P3	Priority 3
P4	Priority 4
P5	Priority 5
PEC	Priority ecological community
P	Perennial
PG	Perennial geophyte
T	Threatened
TEC	Threatened ecological communities
VU	Vulnerable

Table A3: Abbreviations – Legislation

Legislation	
BAM Act	*Biosecurity and Agriculture Management Act 2007*
BC Act	*Biodiversity Conservation Act 2016*
EP Act	*Environmental Protection Act 1986*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*

Table A4: Abbreviations – units of measurement

Units of measurement	
ha	Hectare
km	Kilometre
m	Metre
m AHD	m in relation to the Australian height datum

1 Introduction

1.1 Purpose

Emerge Associates (Emerge) were engaged by the Shire of Wyndham – East Kimberley (SWEK) to undertake a flora, vegetation and fauna survey within the Barytes Road reserve and adjoining land owned by Kimberley Ports Authority and Lot 2 owned by Cambridge Gulf Limited.

The SWEK is proposing road construction works to realign the existing Barytes Road carriageway and maintain suitable access to the Wyndham Port precinct for restricted access vehicles. In addition, portions of the road reserve and adjoining land owned by Cambridge Gulf Limited are proposed to be utilised for material extraction. The survey area is located within the suburb of Wyndham, as shown in **Figure 1** (hereafter referred to as the 'site').

Flora, fauna and vegetation surveys are required to characterise vegetation values, particularly those values relevant to statutory or regulatory approvals such as 'native vegetation', 'threatened flora', 'priority flora', 'threatened ecological communities' (TECs), 'priority ecological communities' (PECs), 'threatened fauna', 'priority fauna' and weeds.

1.2 Statutory and regulatory context

1.2.1 Flora and vegetation

Native vegetation is protected in Western Australia under the *Environmental Protection Act 1986* (EP Act) and can't be cleared without a permit, referral or valid exemption. The EP Act defines native vegetation as indigenous aquatic or terrestrial flora. In the *Environmental Factor Guideline – Flora and Vegetation*, the Environmental Protection Authority (EPA) clarifies that this definition applies to native vascular flora, and further identifies vegetation as groupings of flora (EPA 2016a). Biological diversity, habitat function, scarcity, association with wetlands and other ecosystem services influence the value placed on native vegetation (DWER 2018a). Planted vegetation is generally not regarded as native vegetation unless established as a requirement under the EP Act or other written law or regulation.

Flora and 'ecological communities[1]' may further be listed as threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DCCEEW 2021) and the State *Biodiversity Conservation Act 2016* (BC Act) (DBCA 2025b). Threatened flora and ecological communities (TECs) are classified as either 'critically endangered'(CR), 'endangered' (EN) or 'vulnerable' (VU) (DCCEEW 2021). Ministerial approval is required to impact threatened flora and TECs, governed by regulatory guidance and policy at Commonwealth and/or State levels.

Native flora and ecological communities that are not listed as threatened, but are otherwise considered rare or under threat, may be added to a Department of Biodiversity, Conservation and Attractions (DBCA) priority list (DBCA 2025b). Priority flora and ecological communities (PECs) are classified as either 'priority 1' (P1), 'priority 2' (P2), 'priority 3' (P3) or 'priority 4' (P4). Priority listing

[1] Ecological communities are typically identified as specific groupings of flora. They may therefore be most simply understood as types of vegetation.

does not confer direct statutory protection. However, priority classifications are considered during EP Act approvals and associated regulatory processes.

The EPA's *Environmental Factor Guideline - Flora and Vegetation* recommends that flora and vegetation may be considered significant for a range of reasons other than threatened or priority listing (EPA 2016a). A key value of vegetation is often its function as habitat for threatened or priority fauna.

Flora that have negative environmental or economic impacts are often referred to as weeds (DBCA 2023b). Particularly detrimental weeds may be listed as a 'declared pest' pursuant to the State *Biosecurity and Agriculture Management Act 2007* (BAM Act) or a 'weed of national significance' (WoNS) under Commonwealth policy (DAFF 2021). The management of weeds may be obliged under the BAM Act or as an outcome of statutory or regulatory processes at Commonwealth, State or local government levels.

Further information on classification of legislation and policy relevant to flora and vegetation assessments is provided in **Appendix A.**

1.2.2 Fauna

Fauna may be listed as 'threatened', 'extinct' or 'specially protected' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DCCEEW 2021) and the State *Biodiversity Conservation Act 2016* (BC Act). Threatened fauna are classified as either 'critically endangered' (CR), 'endangered' (EN) or 'vulnerable' (VU) (DBCA 2025d). Extinct species are classified as 'extinct' (EX) or 'extinct in the wild' (EW)[2]. Specially protected species are classified as 'migratory species' (MI), 'species of special conservation interest' (CD) or 'other specially protected' (OS). Ministerial approval may be required to impact threatened fauna and/ or fauna habitat at Commonwealth and/or State levels, governed by regulatory guidance and policy.

Native fauna that are not listed as threatened or specially protected, but are otherwise rare, under threat or poorly known, may be added to a Department of Biodiversity Conservation and Attractions (DBCA) priority list (DBCA 2025d). Priority fauna are classified as either 'priority 1' (P1), 'priority 2' (P2), 'priority 3' (P3) or 'priority 4' (P4). Priority listing does not confer direct statutory protection. However, priority classifications are considered during EP Act approvals and associated regulatory processes.

The Environmental Protection Authority (EPA) *Environmental Factor Guideline – Terrestrial Fauna* recommends that fauna may be considered significant for a range of reasons other than threatened or priority listing (EPA 2016).

Fauna that have negative environmental or economic impacts are often referred to as pests. Particularly detrimental pests may be listed as a 'declared pest' pursuant to the State *Biosecurity and Agriculture Management Act 2007* (BAM Act). Declared pest status and control categories are provided in the *Western Australian Organism List* (DPIRD 2026). Management of declared pests may be obliged under the BAM Act or as an outcome of statutory or regulatory processes.

[2] Currently there are no threatened species listed as extinct in the wild in Western Australia.

Further information on legislation and policy relevant to fauna assessments is provided in **Appendix A**.

1.3 Scope of work

The scope of work was to undertake a detailed flora and vegetation survey and basic fauna survey. The flora and vegetation survey was conducted with reference to the EPA's *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016b). The fauna survey was conducted with reference to the EPA's *Technical Guidance - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA 2020). These guidelines provide advice for planning and undertaking surveys for 'environmental impact assessment' of significant proposals under Part IV of the EP Act. In the absence of alternative official protocols for other scenarios, EPA (2016b) is considered an appropriate standard for surveys across Western Australia generally.

As part of the scope of work the following tasks were undertaken:

- Desktop study to provide contextual information relevant to the assessment of flora, vegetation and fauna within the site.
- Field survey to record flora and fauna species, vegetation units, vegetation condition, and fauna habitats.
- Analysis and mapping of contextual information, vegetation units, vegetation condition and threatened and priority flora, ecological communities and fauna habitats.
- Documentation of the desktop study, methods, results, discussion and conclusions.

2 Desktop Study

2.1 Site location and extent

The site is located in the Shire of Wyndham – East Kimberly (SWEK) in the Kimberley region of Western Australia and extends over 24.55 hectares (ha), as shown in **Figure 1**. The site is bounded primarily by Barytes Road to the north and Meatworks Road to the south. Additional portions of the site extend across private land owned by Cambridge Gulf Limited within the central western section of the site, and land managed by Kimberley Ports Authority surrounding part of Meatworks Road in the south-eastern portion of the site.

2.2 Climate

The Kimberley region of Western Australia experiences a semi-arid to tropical climate characterised by distinct wet (November-April) and dry (May-October) seasons (BoM 2026). Recent rainfall recorded at the nearest Bureau of Meteorology (BoM) weather station indicates conditions have been somewhat inconsistent with long term averages. Rainfall exceeded the long-term monthly average in seven of the twelve months preceding the survey. The most significant increase occurred in November 2025, when rainfall exceeded the long-term average by 269.1 mm. Additionally, in March 2026, the month immediately prior to the survey, rainfall was 212 mm above the long-term monthly average (see **Plate 1**) (BoM 2026).

Flora and vegetation surveys should be undertaken during the optimal seasonal periods for detection and identification of the range of flora likely to be present (EPA 2016b). For the Northern botanical province in which the site occurs, the optimal survey period is during the wet season (January to March) (EPA 2016b).

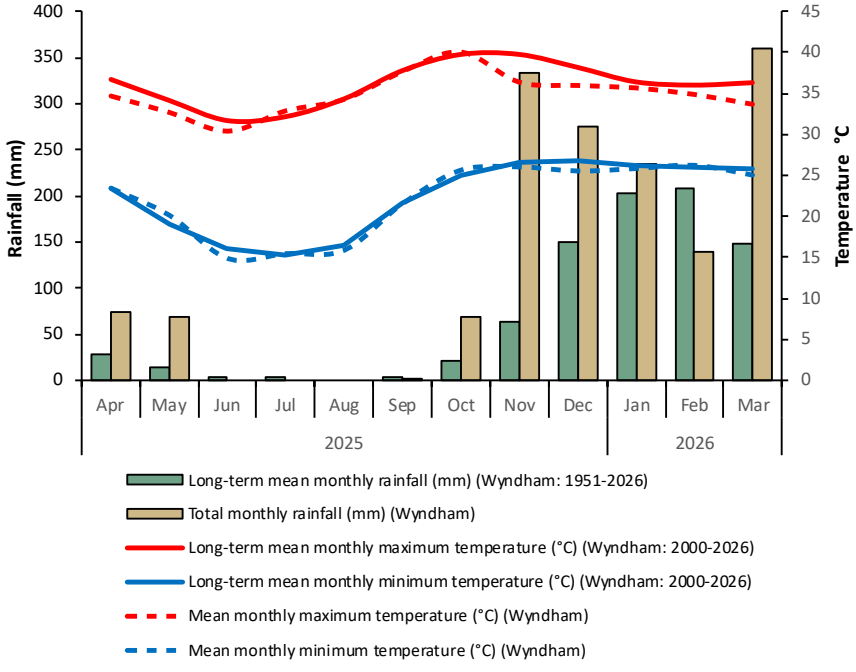


Plate 1: Rainfall and temperature 12 months prior to survey compared to long-term means

2.3 Geomorphology and soils

Fine scale soil landscape mapping by DPIRD (2025) shows four units as occurring within the site, as described in **Table 1** and shown in **Figure 2**.

Table 1: Soil landscape mapping units within the site (DPIRD 2025)

Soil landscape unit	Location within site	Description
Carpentaria Mangal 2 phase	Small area (0.01 ha) located in the south of the site.	Mangrove vegetation forming a fringe on the shores of the gulf and channels. Includes patches of bare mud.
Carpentaria Mud phase	Southern portion of the site.	Coastal tidal and supra-tidal mudflats. Typically saline.
Pinkerton Sandstone range open woodland phase	Centre-east of the site.	Sandstone range open woodland.
Pinkerton Unidentified woodland phase	North and centre of site.	Lower slopes with unidentified woodland.

The site is not known to contain any restricted landforms or unique geological features.

2.4 Topography

The elevation of the site ranges from 40 metres in relation to the Australian height datum (mAHD) on the eastern side to 10 mAHD on the western side (DoW 2008) (**Figure 2**).

2.5 Hydrology and wetlands

Wetlands of national or international significance may be afforded special protection under Commonwealth or international agreements. Review of the *Ramsar List of Wetlands of International Importance* (DBCA 2017) and *A Directory of Important Wetlands in Australia – Western Australia* (DBCA 2018) indicates that no wetlands are located within the site, but one listed 'important wetland' is located approximately 100 m north of the site.

The Department of Water and Environmental Regulation (DWER) hydrography linear dataset (DWER 2018b) records one unnamed water related feature within the south of the site. It indicates that the area is subject to inundation (**Figure 2**).

2.6 Regional vegetation

Native vegetation is described and mapped at different scales to illustrate patterns in its distribution. At a continental scale the *Interim Biogeographic Regionalisation for Australia* (IBRA) divides Australia into floristic subregions, with the site occurring within the Victoria Bonaparte bioregion (DCCEEW 2025).

The site is recorded as occurring within two pre-European vegetation association types: Victoria Bonaparte 127 and Victoria Bonaparte 911. Statewide statistics indicate that 99.55% of the pre-

European extent of the Victoria Bonaparte 127 complex remained in the Keep IBRA sub-region in 2017, with 31.57% protected for conservation purposes and 99.91% of the Victoria Bonaparte 911 complex remained in the Keep IBRA sub-region with 0.03% protected for conservation purposes (Government of Western Australia 2018).

2.7 Threatened and priority flora

The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) has compiled various datasets relating to 'matters of national environmental significance' (MNES) (DCCEEW 2026). The *Protected Matters Search Tool* provides general guidance on threatened flora listed under the EPBC Act based on validated records and less reliable unvalidated habitat distribution modelling (DCCEEW 2026).

DBCA's *Threatened and Priority Flora Database* and *WA Herbarium Database* contain validated and historical unvalidated point records of threatened and priority flora populations in Western Australia (DBCA 2025b).

Searches of the *Protected Matters Search Tool* (DCCEEW 2026) and DBCA's threatened and priority flora databases (reference no. 48-03264FL) indicate there are records for two threatened and 90 priority flora within a 60 km radius of the site (refer **Appendix B** and **Figure 3).** The distribution and habitat preferences of the one threatened and 58 priority flora outlined in **Table 2** align most closely with the sites' environmental context (**Figure 2** and **Section 2.1** to **2.6** above).

Table 2: Threatened or priority flora species with distribution and habitat preferences most closely aligned to environmental features in the site

Species	Status		Life strategy	Flowering period
	WA	EPBC Act		
Eucalyptus ceracea	VU	VU	P	Jun-Nov
Lazarum sp. Kununurra (A.N. Start ANS 1467)	EN	-	PG	Dec – Jan
Acacia seclusa	P1	-	P	Aug
Acacia sp. L Kimberley Flora (T.G. Hartley 14569)	P1	-	P	Unknown
Calycopeplus collinus	P1	-	P	Mar
Croton arnhemicus	P1	-	P	Unknown
Cucumis sp. Bastion Range (A.A. Mitchell et al. AAM 10710)	P1	-	A	Apr-May
Cyperus digitatus	P1	-	P	Unknown
Eragrostis rigidiuscula	P1	-	P	Jan-Mar
Euploca alcyonium	P1	-	P	Unknown
Euploca foveolata	P1	-	P	Unknown
Euploca tachyglossoides	P1	-	P	Unknown
Euploca uniflora	P1	-	P	Mar-Apr
Fimbristylis subaristata	P1	-	A	Feb-May

Table 2: Threatened or priority flora species with distribution and habitat preferences most closely aligned to environmental features in the site (continued)

Species	Status		Life strategy	Flowering period
	WA	EPBC Act		
Goodenia brachypoda	P1	-	P	Sep
Goodenia durackiana	P1	-	A	Mar-May
Goodenia heterotricha	P1	-	A/P	May-Jun
Hibiscus sp. Kununurra (K.F. Kenneally 1940)	P1	-	P	Mar-Aug
Lazarum sp. Middle Creek (M.D. Barrett MDB 3246)	P1	-	PG	Jan
Lepturus xerophilus	P1	-	A	Mar
Microsorum grossum	P1	-	P	Unknown
Polygala crassitesta	P1	-	A/P	Feb
Scaevola sp. Cockburn Range (G.W. Carr 3369 & A.C. Beauglehole 47147)	P1	-	P	May
Solanum pugiunculiferum	P1	-	A	Jul-Aug
Stylidium multiscapum	P1	-	A	Apr, Jun-Aug
Triodia cunninghamii	P1	-	P	Mar, Sep
Triodia fitzgeraldii	P1	-	P	Oct
Triodia triticoides	P1	-	P	Jan-Mar, Jun-Jul
Utricularia tridactyla	P1	-	A	Mar
Whiteochloa capillipes	P1	-	A/P	Feb-Jun
Dicarpidium sp. B Kimberley Flora (G.J. Keighery 10138)	P1	-	P	Jun
Iseilema trichopus	P1	-	A	Mar
Jacquemontia sp. Keep River (J.L. Egan 5015)	P1	-	P	Feb-Mar, Sep
Sphaeranthus africanus	P1	-	A	Unknown
Trachymene oleracea subsp. *sedimentum*	P1	-	A	May
Zornia areolata	P1	-	P	Unknown
Eucalyptus ordiana	P2	-	P	Apr-May
Gomphrena longistyla	P2	-	A	Jan-Feb, Jun
Minuria macrorhiza	P2	-	P	Jan, May-Oct
Tephrosia sp. Kununurra (T. Handasyde TH00 250)	P2	-	P	Feb-Jul
Dolichandrone filiformis	P2	-	P	Dec
Grevillea latifolia	P2	-	P	Mar-Sep, Dec
Neptunia valida	P2	-	P	Apr-May
Stylidium incognitum	P2	-	A	Jun-Aug
Acacia richardsii	P3	-	P	Mar-Aug

Table 2: Threatened or priority flora species with distribution and habitat preferences most closely aligned to environmental features in the site (continued)

Species	Status		Life strategy	Flowering period
	WA	EPBC Act		
Brachychiton incanus	P3	-	P	Jul-Sep
Fuirena incrassata	P3	-	A	May-Aug
Gardenia sericea	P3	-	P	Jul
Goodenia byrnesii	P3	-	A	Jan-Feb
Lophostemon grandiflorus subsp. *grandiflorus*	P3	-	P	Nov-Apr
Synostemon hubbardii	P3	-	P	Jan-Feb
Synostemon rigidulus	P3	-	P	Mar-Apr
Tephrosia sp. Mistake Creek (A.C. Beauglehole 54424)	P3	-	P	Jun-Nov
Acacia sp. Cockburn Range (R. Pullen 10.763)	P3	-	P	Aug
Brachychiton tuberculatus	P3	-	P	Unknown
Isotropis browniae	P3	-	P	Mar
Tephrosia valleculata	P3	-	P	Unknown
Ficus lilliputiana forma lilliputiana	P4	-	P	Apr-May
Ficus lilliputiana forma pilosa	P4	-	P	Unknown
Paspalidium distans	P4	-	P	Jan-Mar

Status: CR=critically endangered, EN=endangered, VU=vulnerable, T = threatened, P1-P4=Priority 1-Priority 4,
Life strategy: A= annual, P=perennial, PG=perennial geophyte

2.8 Threatened and priority ecological communities

The *Protected Matters Search Tool* provides general guidance on TECs listed as CR and EN under the EPBC Act that may occur within a location based on reliable records and less reliable habitat distribution modelling (DCCEEW 2026).

DBCA's *Threatened and Priority Ecological Community buffers and boundaries in WA* dataset contains validated records of TECs and PECs as buffered polygons.

Searches of the *Protected Matters Search Tool* (DCCEEW 2026) indicated no records for TECs and DBCA's TEC and PEC database (reference no. 26-0326EC) indicate there are records for 13 PECs within a 100 km radius of the site (refer **Appendix D).** The distribution and habitat preferences of the TECs and PECs outlined in **Table 3** align most closely with the sites' environmental context (**Figure 2** and **Section 2.1** to **2.6** above).

Table 3: Threatened or priority ecological communities with distribution and habitat preferences most closely aligned to environmental features in the site

Code	Communities	Status	
		WA	EPBC Act
Point Spring	Assemblages of Point Spring rainforest swamp	P1	-
Victoria-Bonaparte wetlands	Assemblages of the wetlands with the organic mound springs on the tidal mudflats of the Victoria- Bonaparte bioregion	P1	-
Vegetation Association 915	Kimberley Vegetation Association 915	P1	-
Vegetation Association 918	Kimberley Vegetation Association 918	P1	-
Oryza australiensis	*Oryza australiensis (*wild rice) grasslands on alluvial flats of the Ord River	P1	-
Kimberley Land Snails	Camaenid land snail and vine thicket assemblage of limestone hills (Jeremiah Hills and Ningbing Ranges)	P3	-
Dinnabung	Dinnabung Land System	P3	-
Ivanhoe Land System	Ivanhoe Land System	P3	-
Vegetation Association 838	Kimberley Vegetation Association 838	P3	-
Vegetation Association 908	Kimberley Vegetation Association 908	P3	-
Legune Land System	Legune Land System	P3	-
Tanmurra Land System	Tanmurra Land System	P3	-
Willeroo Land System	Willeroo Land System	P3	-

2.9 Threatened, specially protected and priority fauna

The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) has compiled various datasets relating to 'matters of national environmental significance' (MNES) (DCCEEW 2026b). The *Protected Matters Search Tool* provides general guidance on threatened and specially protected fauna listed under the EPBC Act that may occur within a location based on validated records and less reliable unvalidated habitat distribution modelling (DCCEEW 2026b).

DBCA's *Threatened and Priority Fauna* database, the *Dandjoo* biodiversity data platform and the Atlas of Living Australia (ALA), provide validated and historical unvalidated records for threatened, specially protected and priority fauna in Western Australia as point data (ALA 2026; DBCA 2025d, 2026)

Searches of the *Protected Matters Search Tool* (DCCEEW 2026b), DBCA's fauna database (reference no. 25-0325FA), the Atlas of Living Australia (ALA 2026), and *Dandjoo* (DBCA 2026) identified 103 threatened, two specially protected, and 12 priority fauna species as occurring or potentially occurring within 60 km of the site (refer **Appendix C** and **Figure 4)**. The known current distribution and habitat preferences of the 33 threatened, two specially protected and six priority fauna species

outlined in **Table 4** align most closely with the environmental context of the site (**Section 2.1** to **2.8** above). Note that unreliable records were excluded from consideration.

Table 4: Threatened, specially protected or priority fauna species with distribution and habitat preferences that align most closely with the environmental context of the site

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
Birds				
Actitis hypoleucos	Common sandpiper	MI	MI	Edge of sheltered waters salt or fresh, e.g. estuaries, mangrove creeks, rocky coasts, near coastal salt lakes (including saltwork ponds), river pools, lagoons, claypans, drying swamps, flood waters, dams and sewage ponds. Preferring situations where low perches are available (Johnstone & Storr 1998).
Apus pacificus	Pacific swift	MI	MI	Aerial, migratory species that is most often seen over inland plains and sometimes above open areas, foothills or in coastal areas. Sometimes occurs over settled areas, including towns, urban areas and cities (Pizzey & Knight 2012).
Calidris acuminata	Sharp-tailed sandpiper	MI	VU, MI	Occurs in tidal mudflats, saltmarshes and mangroves, as well as shallow fresh, brackish or saline inland wetlands. It is also known from floodwaters, irrigated pastures and crops, sewage ponds, salt fields (Pizzey & Knight 2012).
Calidris ruficollis	Red-necked stint	MI	MI	Tidal mudflats, saltmarshes, sandy or shelly beaches, saline and freshwater wetlands (coastal and inland), salt fields, sewage ponds (Pizzey and Knight 2012).
Chloebia gouldiae	Gouldian finch	P4	EN	Species occurs in savannah woodlands on stony hills with eucalypts over dense, tall (2m) native grasses. Also, grassy flats, trees near water, vegetation on watercourses and scrublands over spinifex (Pizzey & Knight 2012).
Erythrotriorchis radiatus	Red goshawk	EN	EN	Open forests and woodlands, often near watercourses and wetlands or on the fringes of rainforests (Pizzey & Knight 2012).

Table 3: Threatened, specially protected or priority fauna species with distribution and habitat preferences that align most closely with the environmental context of the site (continued)

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
Falco hypoleucos	Grey falcon	VU	VU	Species occurs in arid and semi-arid Australia, where it inhabits timbered lowland plains, in particular, *Acacia* shrublands and that are crossed by tree-lined water courses. Species has also been observed hunting in treeless areas and frequenting tussock grassland and open woodlands (TSSC 2020).
Glareola maldivarum	Oriental pratincole	MI	MI	Plains, shallow wet and dry edges of open bare wetlands, tidal mudflats and beaches (Pizzey & Knight 2012).
Hirundo rustica	Barn swallow	MI	MI, MA	Range of habitat, including open country, agricultural land, railyards, towns and overhead wires, especially near water (Pizzey & Knight 2012).
Limosa lapponica	Bar-tailed godwit	MI	MI	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near coastal salt lakes (including saltwork and sewage ponds) (Johnstone and Storr 1998).
Limosa limosa	Black-tailed godwit	MI	EN, MI	Tidal mudflats, estuaries, sewage ponds, shallow river margins, brackish or saline inland lakes, flooded pastures, airfields (Pizzey & Knight 2012).
Numenius madagascariensis	Eastern curlew	CR	CR, MI	Mainly tidal mudflats; also reef flats, sandy beaches and rarely near-coastal lakes (including saltwork ponds) (Johnstone and Storr 1998).
Pandion haliaetus	Osprey	MI	MI	Coasts, estuaries, bays, inlets, islands, and surrounding waters; coral atolls, reefs, lagoons, rock cliffs, stacks (Pizzey & Knight 2012).
Rostratula australis	Australian painted snipe	EN	EN	Mainly shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans (Marchant and Higgins 1993).
Sternula albifrons	Little tern	MI	MI	Species is mainly coastal, being found on beaches, sheltered inlets, estuaries, lakes, sewage farms, lagoons, river mouths and deltas (Pizzey & Knight 2012).

Table 3: Threatened, specially protected or priority fauna species with distribution and habitat preferences that align most closely with the environmental context of the site (continued)

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
Tringa nebularia	Common greenshank	MI	EN, MI	Mudflats, estuaries, saltmarshes, margins of lakes, wetlands, claypans (fresh and saline), commercial salt fields, sewage ponds (Pizzey & Knight 2012).
Tringa stagnatilis	Marsh sandpiper	MI	MI	Mainly shallow fresh or brackish waters: swamps, lakes, river pools, soaks, sewage ponds and bore overflows. Occasionally estuaries and salt ponds, and rarely coasts (DCCEEW 2023).
Charadrius leschenaultii	Great sand plover	VU	VU, MI	Wide sandy or shelly beaches, sandpits, tidal mudflats, reefs, sand cays, mangroves, saltmarsh, dune wilderness, bare paddocks, seldom far inland (Pizzey & Knight 2012).
Charadrius veredus	Oriental plover	MI	MI	Species occurs in a variety of habitats, including open plains, bare or rolling country often far from water, ploughed land, muddy or sandy wastes near inland swamps or tidal mudflats, bare claypans, margins of coastal marshes, grassy airfields, sportsfests and lawns (Pizzey & Knight 2012).
Cuculus optatus	Oriental cuckoo	MI	MI	Range of habitats, including monsoon forests, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves and islands (Pizzey & Knight 2012).
Calidris pugnax	Ruff	MI	MI	Fresh, brackish and saline wetlands; tidal mudflats, salt fields, sewage ponds (Pizzey & Knight 2012).
Calidris subminuta	Long-toed stint	MI	MI	Mainly freshwater swamps (especially when drying and where vegetation is short), river pools, lagoons and claypans; also, brackish pools, sewage ponds and samphire flats around estuaries and salt lakes (Johnstone & Storr 1988).
Chlidonias leucopterus	White-winged black tern	MI	MI	Vegetated and open wetlands, brackish and saline lakes, salt fields, irrigated lands, sewage ponds and occasionally offshore (Pizzey & Knight 2012).
Elanus scriptus	Letter-winged kite	P4	-	Open to sparsely wooded country and grassland near tree-lined streams or watercourses (Johnstone and Storr 1998).

Table 3: Threatened, specially protected or priority fauna species with distribution and habitat preferences that align most closely with the environmental context of the site (continued)

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
Falco peregrinus	Peregrine falcon	OS	-	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes (Johnstone and Storr 1998).
Gelochelidon nilotica	Gull-billed tern	MI	MI	Beaches, mudflats; fresh, brackish wetlands, including far inland; grasslands, crops, ploughed fields, airfields (Pizzey & Knight 2012).
Numenius minutus	Little curlew	MI	MI	Dry grasslands, floodplains, margins of drying swamps; tidal mudflats, airfields, playing fields, crops, commercial salt fields, sewage ponds (Pizzey & Knight 2012).
Numenius phaeopus	Whimbrel	MI	MI	Estuaries, mangroves, tidal flats, coral cays, exposed reefs, flooded paddocks, sewage ponds, bare grasslands, sportsgrounds and lawns (Pizzey & Knight 2012).
Plegadis falcinellus	Glossy Ibis	MI	MI	Well-vegetated wetlands, wet pasture, rice fields, floodwaters, floodplains, brackish or occasionally saline wetlands, mangroves, mudflats and occasionally dry grassland (Pizzey & Knight 2012).
Pluvialis fulva	Pacific golden plover	MI	MI	Estuaries, mudflats, saltmarshes, mangroves; rocky reefs and stranded seaweed on ocean shores; margins of shallow open inland swamps; sewage ponds, short-grass paddocks, sportsgrounds, airfields, ploughed land (Pizzey & Knight 2012).
Tringa glareola	Wood sandpiper	MI	MI	Mainly shallow fresh waters (lagoons, swamps, claypans, river pools, dams, bore overflows and sewage ponds); occasionally brackish swamps, rarely salt lakes and estuaries (Pizzey & Knight 2012).
Botaurus dubius	Australian little bittern	P4	-	Dense vegetation surrounding/within freshwater pools, swamps and lagoons, well screened with trees. Shelters in dense beds of Typha spp., *Baumea* spp. and tall rushes in freshwater swamps around lakes and along rivers (Johnstone and Storr 1998).

Table 3: Threatened, specially protected or priority fauna species with distribution and habitat preferences that align most closely with the environmental context of the site (continued)

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
Mammals				
Dasyurus hallucatus	Northern quoll	EN	EN	Most abundant in rocky eucalypt woodland but occurs in range of vegetation types, mostly within 200 km of the coast (Menkhorst & Knight 2011).
Hydromys chrysogaster	Rakali	P4	-	Areas with permanent water, fresh, brackish or marine. Likely to occur in all major rivers and most of the larger streams as well as bodies of permanent water in the lower south-west (Christensen et al. 1984). Intact riparian vegetation and associated bank stability is critical to their survival (DWER 2023).
Leggadina lakedownensis	Lakeland Down's short-tailed mouse	P4	-	Mostly moist tussock grassland or tropical savannah on clay soils and stony hummock grassland in the Pilbara (Menkhorst & Knight 2011).
Rhinonicteris aurantia	Orange leaf-nosed bat	P4	-	During the dry season the species roosts in deep, warm, humid caves or mines and forages nearby; in the wet season it is more widespread and may not require caves for roosting (Menkhorst & Knight 2011).
Vespadelus douglasorum	Yellow-lipped cave bat	P2	-	Rocky escarpment country in vegetation ranging from monsoon forest and vine thickets to open woodland and savannah (Menkhorst & Knight 2011).
Reptiles				
Crocodylus porosus	Saltwater crocodile	MI	MI	Coastal rivers and swamps. Inland along major drainage systems and occasionally in the open sea (Wilson & Swan).
Varanus mertensi	Merten's water monitor	EN	EN	Perennial and semi-permanent pools, margins of permanent streams and rivers, floodplain billabongs, lagoons, man-made irrigation channels (DCCEEW 2023).

Table 3: Threatened, specially protected or priority fauna species with distribution and habitat preferences that align most closely with the environmental context of the site (continued)

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
Reptiles				
Crocodylus johnstoni	Freshwater crocodile	OS	-	Freshwater rivers and billabongs (Wilson and Swan 2021).
Chelodina kuchlingi	Kuchling's snake-necked turtle	CR	-	Distributed across the Ord River floodplain.

3 Methods

3.1 Field survey

An experienced ecologist visited the site on 22 and 24 April 2026 to conduct a field survey. The timing of the field surveys was determined based on review of desktop study information to ensure detection of native flora and vegetation was maximised, with particular reference to the flowering periods of the threatened and priority flora and ecological communities whose distribution and habit preferences best align with the site's location and environmental context (refer **Figure 2** and **Table 2**).

During the field survey the site was traversed by vehicle and on foot and the floral composition and condition of vegetation was recorded along with photographic images and notes. Specimens were collected where the identity of flora required further confirmation. Habitats were assessed for their suitability for the threatened or priority species and ecological communities identified in **Table 2** and **Table 3**, if suitable habitats or occurrences of threatened or priority flora, or potential TECs or PECs, were detected, field survey focus and effort was adapted accordingly.

The site was traversed during the day to evaluate the fauna habitat and record the presence of fauna species. An opportunistic fauna list was compiled which included evidence of species presence such as tracks, scats, skeletal remains, foraging evidence and calls.

3.1.1 Targeted searches

Targeted searches were conducted for threatened and priority flora with a particular focus on areas of suitable habitat for species outlined in **Table 2**. Transects were traversed approximately 30 m apart through areas determined to represent suitable or potentially suitable habitat (**Figure 5**). Transect lines and flora records were marked using a hand-held GPS receiver (±5 m accuracy).

3.1.2 Sampling

Sampling of the vegetation was undertaken using a combination of 50 x 50 m quadrats and relevés. Habitats and vegetation units determined to be suitable or potentially suitable for the TECs and PECs identified in **Table 3** were prioritised. Quadrats were permanently marked with a fence dropper at the northwest corner and bounded by measuring tape during assessment. Relevés were completed over an equivalent 50 x 50 m area without the use of physical markers and were included to provide a more rapid sample of patches of vegetation in poorer condition and/or of smaller size. The position[3] of each sample was recorded with a hand-held GPS receiver (±5 m accuracy).

The data recorded within each sample included:

- sampling information (name/ number, recorder, date, spatial location)
- environmental information (elevation, slope, aspect, bare-ground, rock outcropping, soil type and colour, soil moisture, litter layer, topographical position, time since last fire event, disturbance)

[3] For quadrats the north-west corner was recorded.

- biological information (species, plant specimens, vegetation structure, vegetation condition, 'foliage projective cover', weeds).

3.1.3 Vegetation condition

The condition of the vegetation was assessed using the EPA (2016b) scale adapted from Trudgen (1991), as shown in **Table 5.**

Table 5: Vegetation condition scale applied during the field survey

Category	Definition (EPA 2016b)
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively nonaggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Degraded	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation, i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

^relative to the expected natural diversity for that vegetation.

3.2 Analysis and data preparation

3.2.1 Flora identification

Flora were identified through comparison with named material and using taxonomic keys. Plant specimens collected during the field survey were dried, pressed and named in accordance with requirements of the (Western Australian Herbarium 2026).

Flora was classified as native if indigenous to the IBRA region in which the site occurs. Non-native flora is denoted by '*' and planted vegetation by 'Pl' in text and raw data. The legal or policy status of flora was denoted using codes outlined in **Appendix A.**

3.2.2 Fauna identification

Fauna observed during the survey were identified in the field unless unknown. Where fauna was unknown, photographs and/or noted observations were recorded. Unknown fauna was identified through the use of taxonomic keys and field guides.

Fauna habitats were described according to the habitat assessment results as well as the dominant flora species and vegetation type present, as determined from observations made during the field survey.

The identified fauna habitats were mapped on aerial photography with the boundaries interpreted from aerial photography, plant communities and notes taken in the field.

3.2.3 Sampling adequacy

A species accumulation curve was plotted from sample data by generating a trendline (log) in Microsoft Excel. The trendline was forecast to locate the asymptote of the curve (the point at which the curve flattens), which provides an indication of amount of sampling that would be required before it can be assumed few species remain undetected.

Species richness was estimated in PRIMER v6 (Clarke and Gorley 2006). Jacknife1 and Chao2 non-parametric estimators are reported as these are known to perform well in comparison to simulated and real data sets and are also recommended for small sample sizes (Gotelli and Colwell 2011). Differences between recorded and estimated species richness was used to evaluate the adequacy of sampling effort.

3.2.4 Vegetation unit identification and description

Vegetation units were identified using notes and the sample data collected during the field survey. Each vegetation unit was described according to the dominant species present using the structural formation descriptions of the *National Vegetation Inventory System* (NVIS) (NVIS Technical Working Group 2017). Spatial data was then created for vegetation units and vegetation condition and mapped on aerial imagery using notes collected during the field survey.

3.2.5 Threatened and priority flora confirmation

Once identified, spatial data for threatened and/or priority flora occurrences recorded during the field survey was compiled and mapped on aerial imagery.

The remaining threatened and priority flora identified in the desktop study but not recorded during the field survey were assigned a 'likelihood of occurrence' as outlined in **Table 6**.

Table 6: Decision matrix for likelihood of occurrence of threatened and priority flora not recorded during the field survey

Habitat	Survey limitation		
	Limitation to detection	Minor limitation to detection	No limitation to detection
Suitable / marginal	Potential to occur	Unlikely to occur	Nil (does not occur)
Unsuitable	Very unlikely to occur		

3.2.6 TEC and PEC confirmation

Vegetation unit / FCT associations were assessed against TEC and PEC diagnostic characteristics and, if available, size and/or vegetation condition thresholds (DBCA 2023a). Where TEC or PEC was identified, spatial data was created to define patch boundaries mapped on aerial imagery using notes collected during the field survey.

The TECs or PECs identified in the desktop study but not recorded during the field survey were assigned a 'likelihood of occurrence' as outlined in **Table 7**.

Table 7: Decision matrix for likelihood of occurrence of TECs and PECs not recorded during the field survey

Habitat	Survey limitation	
	Limitation to detection	No limitation to detection
Suitable / marginal	Potential to occur	Nil (does not occur)
Unsuitable	Unlikely to occur	

3.2.7 Threatened, specially protected and priority fauna confirmation

The spatial location of threatened, specially protected or priority fauna or associated habitat features recorded during the field survey were compiled and mapped on aerial imagery.

The remaining threatened, specially protected or priority fauna identified in the desktop study **(Table 4)** but not recorded during the field survey were assigned a 'likelihood of occurrence' category, as outlined in **Table 8**. The assigned likelihood of occurrence should be interpreted as a reasoned assumption made at the time of the field survey(s), given the information available and the acknowledged survey limitations (refer **Section 3.3**).

Table 8: Criteria to determine likelihood of occurrence categories for threatened, specially protected or priority fauna identified in the desktop study

<table>
<tr><th colspan="6">Evaluation criteria</th><th>Likelihood of occurrence</th></tr>
<tr><td rowspan="5">1. Survey limitation

Could the species have been present and not detected?</td><td colspan="5">No</td><td>Nil (does not occur)</td></tr>
<tr><td rowspan="4">Yes (Limitation)</td><td colspan="4">No</td><td>Very unlikely to occur</td></tr>
<tr><td rowspan="3">2. Endemism or access

Is the site large enough to support a population of the species?

or

Could the species gain access at other times though its mobility and the site's connectivity?</td><td rowspan="3">Yes</td><td rowspan="3">3. Habitat suitability
Is there sufficient suitable habitat present to support the species' occurrence?</td><td>No (unsuitable)</td><td>Unlikely to occur</td></tr>
<tr><td>Maybe (unconfirmed)</td><td>Potential to occur</td></tr>
<tr><td>Yes (suitable)</td><td>Likely to occur</td></tr>
</table>

The anticipated utilisation of the site by threatened, specially protected or priority fauna considered likely to occur or that have potential to occur was further classified based on their home range and patterns of movement, as outlined in **Table 9**.

Table 9: Utilisation categories assigned to threatened, specially protected or priority fauna that were recorded or considered likely or potentially occurring in the site

Category	Description
Resident	The home range of the species is equivalent to or smaller than the suitable habitat in the site and so it may be a permanent resident
Regular visitor	The home range of the species is larger than the site and so it may be a regular visitor or temporary resident
Irregular visitor	The home range of the species is significantly larger than the site and so it may be an irregular visitor
Occasional visitor	The species is vagrant with an unbounded home range and so it may be an occasional visitor
Seasonal visitor	The species is migratory and so could be a seasonal visitor or temporary resident

3.2.8 Fauna habitat

Fauna habitats were identified using notes and the sample data collected during the field survey. Each fauna habitat type was broadly described according to dominant vegetation and landform. The identified fauna habitats were mapped on aerial photography with the boundaries interpreted from aerial photography, vegetation units and notes taken in the field. Vegetation relevant to fauna habitat assessments were classified as native if indigenous to the IBRA region in which the site occurs.

3.3 Limitations

It is important to note constraints imposed on assessments and the degree to which these may have limited outcomes. An evaluation of the desktop study and methods applied in the current assessment against standard constraints outlined in the EPA document *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016b) is provided in **Table 10**.

Table 10: Evaluation of assessment against standard constraints outlined in EPA (2016b)

Constraint	Degree of limitation	Details
Availability of contextual information	No limitation	The broad scale contextual information described in **Section 2** is adequate to place the site and flora and vegetation in context.
Experience level of personnel	No limitation	This assessment was undertaken by a qualified ecologist with over six years of experience in Western Australia. Technical review was undertaken by a senior environmental consultant with 15 years' experience in environmental science in Western Australia.
Suitability of timing	Minor	In semi-arid/tropical climates, some flora spend part of their lifecycle as underground storage organs or seed to avoid excessive heat and drought. These species, known as 'geophytes' or 'annuals', tend to re-emerge following seasonal rainfall and are often most detectable during the wet season (November to April), which also corresponds with the primary flowering period for many flora species in northern Western Australia (WA). As such, the wet season is generally considered the optimal period for undertaking flora and vegetation surveys in the region. The survey was conducted in April 2026, towards the end of the wet season and slightly outside the peak flowering period for some species. However, significantly above average rainfall was recorded in March 2026, the month preceding the survey, which is likely to have promoted flowering and increased detectability of many flora species at the time of the assessment. The site has also been subject to historical disturbance but there remains the potential for annual or geophytic threatened and priority species to occur within the survey area that may not have been detectable during the survey period. Overall, the timing of the survey was considered suitable to enable the detection of the majority of flora species for which seasonal timing is critical.
Temporal coverage	No limitation	Detailed flora and vegetation assessments can require multiple visits, at different times of year, and over a period of a number of years, to enable observation of all species present. The site was visited once in April 2026 and as such some species may not have detectable at the time of survey. However, this is not considered a limitation as the survey area is relatively small and there was presence of historical disturbance.
Spatial coverage and access	No limitation	Site coverage was comprehensive (track logged).
	No limitation	All parts of the site could be accessed as required.
Sampling intensity	No limitation	A total of 91 species were recorded, of which 55 were recorded from 13 sample locations and 36 were recorded opportunistically. Minimum species richness within site is estimated at between 65 (Jacknife1) and 57 (Chao2) species (refer species accumulation curve and estimates shown in **Plate 2**). The number of species recorded in the site is higher than the Chao2 and Jacknife1 estimates which indicates that survey effort was adequate to prepare a near-comprehensive species inventory for the site.
Influence of disturbance	No limitation	Time since fire is less than five years as interpreted from aerial imagery and therefore short-lived species more common after fire should have been visible.

Table 10: Evaluation of assessment against standard constraints outlined in EPA (2016b) (continued)

Constraint	Degree of limitation	Details
	Minor limitation	Historical ground disturbance was evident across parts of the site, including previous ground disturbance and fire impacts. Evidence of past fire disturbance was observed throughout the portions of the site and is likely is have influenced vegetation structure and species composition. In some instances, fire affected plant grown and results in stunted or regenerating individuals with limited diagnostic features, making identification to species level more difficulty. The disturbance history of the site was considered when undertaking field sampling.

An evaluation of the survey methodology against standard constraints outlined in the EPA's document *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020) is provided in **Table 11**.

Table 11: Evaluation of survey methodology against standard constraints outlined in the EPA's Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA 2020)

Constraint	Degree of limitation	Details
Level of survey	No limitation	A basic survey (desktop study and field survey) was undertaken. The level of survey and survey effort are considered adequate to assess the fauna and habitat values within the site.
Scope	No limitation	The survey focused on vertebrate fauna and habitat values, with particular focus on conservation significant taxa with potential to occur within the site.
Proportion of fauna identified, recorded and/or collected.	No limitation	All observed vertebrate fauna were identified.
Sources of information e.g. previously available information (whether historic or recent) as distinct from new data.	No limitation	Adequate information was available from database searches, previous surveys and literature references.
Experience level of personnel	No limitation	This fauna assessment was undertaken by a qualified ecologist with over five years of zoological experience in Western Australia. Technical review was undertaken by a senior environmental consultant with over 15 years' experience in environmental science in Western Australia.
Suitability of timing, weather and season	No limitation	Survey timing is not considered to be of great importance for basic fauna assessments but the weather conditions during the survey were ideal for detecting fauna species.
Completeness	No limitation	The desktop assessment and field survey components of the survey were completed comprehensively.
Spatial coverage and access	No limitation	Site coverage was comprehensive (track logged).
	No limitation	All parts of the site could be accessed as required.
Survey intensity	No limitation	The intensity of the survey was adequate given the size of the site.
Influence of disturbance	No limitation	The site is highly modified due to historical disturbance. However, no recent disturbance was noted that may have affected outcomes of the survey.

4 Results

4.1 Flora

4.1.1 Species inventory

A total of 91 flora species were recorded during the field survey. A summary of the legal and policy status of flora taxa is provided in **Table 12**. A complete species list is provided in **Appendix E.**

Table 12: Summary of legal and policy status of taxa recorded in the site

Status	Unlisted	Threatened	Priority	Declared Pest	Total
Native	74	-	3	-	**77**
Non-native	10	-	-	4	**14**
Total	**84**	-	3	4	**91**

Sampling recorded 55 species from 13 samples. A further 36 species were recorded opportunistically across the site. A species accumulation curve derived from sample data is presented in **Plate 2**. Species richness was estimated to be between 65 (Jacknife1) and 57 (Chao2) indicating a higher proportion of the flora present were detected.

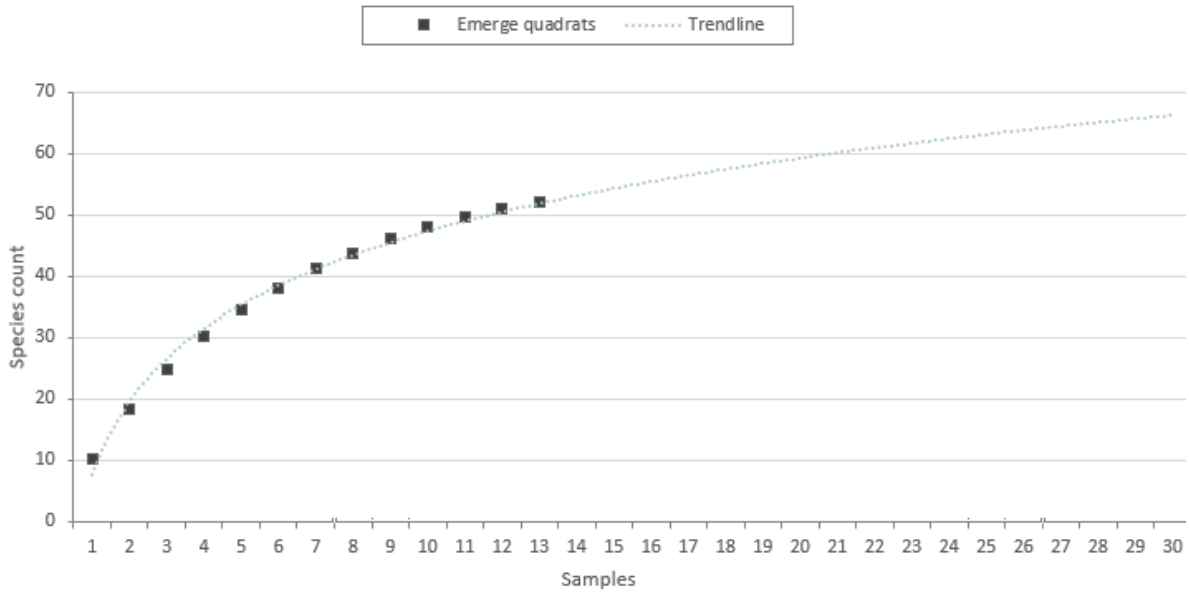


Plate 2: Species accumulation curve derived from sample data 17.236ln(x) + 7.6294
R^2 = 0.9922

4.1.2 Threatened and priority flora

Three priority flora species, *Brachychiton incanus* (P3), *Dolichandrone filiformis* (P2) and *Goodenia byrnesii* (P3) were recorded within the site.

A single individual of *Brachychiton incanus* was recorded within the eastern portion of the site. Six individuals of *Dolichandrone filiformis* and three individuals of *Goodenia byrnesii* were recorded within the grassland vegetation unit. The locations of the individuals are shown in **Figure 6**.

No threatened flora species were recorded during the survey.

The following threatened and priority flora species are considered to have potential to occur in the site as the survey limitations preclude confirmation of their absence:

- *Gomphrena longistyla (*P2)
- *Goodenia heterotricha* (P1)
- *Iseilema trichopus* (P1)
- *Polygala crassitesta* (P1)
- *Solanum pugiunculiferum* (P1)
- *Sphaeranthus africanus* (P1)
- *Stylidium incognitum* (P2)
- *Utricularia tridactyla* (P1).

These species are discussed in **Section 5.1.1**. The remainder of threatened and priority flora identified in the desktop study do not occur or are considered unlikely to occur as outlined in **Appendix B.**

4.1.3 Declared pests

Four of the species recorded is listed as a declared pest (C3) pursuant to the BAM Act: **Calotropis procera* (calotrope), **Jatropha gossypifolia, *Vachellia nilotica* subsp. *indica* and **Azadirachta indica* Many individuals recorded on the road reserve and in vegetation in poor condition. **Jatropha gossypifolia* and **Vachellia nilotica* subsp. *indica* are also known as weeds of national significance (WoNS). While not listed as a declared pest or WoNS, *Eragrostis trichophora* was recorded within the southern portion of the site. The species has recently been confirmed by the WA Herbarium as a new weed record for Western Australia and has been identified as having the potential to become a serious environmental weed.

4.2 Vegetation

4.2.1 Vegetation units

Five vegetation units were identified within the site, as mapped from thirteen sample locations, comprised of three quadrats and ten relevés. A description and the area of each vegetation unit is provided in **Table 13**. The location of each vegetation unit and sample location is shown in **Figure 7**. A species list is provided in **Appendix E** and raw sample data in **Appendix F.**

Table 13: Description and extent of vegetation units identified within the site

Code	Description	Sample/s	Total area (ha)	Proportion of site (%)	Representative photograph
Grassland	Sparse shrubland of **Calotropis procera, *Azadirachta indica, Ficus* sp., *Grevillea ?erythroclada, Lysiphyllum cunninghamii* and *Sesbania erubescens* over sparse forbland of *Gomphrena canescens* subsp. *canescens, Ptilotus corymbosus* and *Ptilotus exaltatus* and grassland of **Chloris barbata, *Cenchrus ciliaris, Eragrostis tenellula, Eragrostis falcata* and *Sorghum plumosum.*	R5, Q6, R7, R8, R9, R11, R12, R13	12.91	52.6	
Samphire	Open grassland of *Eragrostis falcata* and **Chloris barbata* over sparse samphire shrubland of *Tecticornia ?indica* and spare forbland of *Salsola australis* and *Bulbostylis barbata.*	Q1, R2, R3, Q4	4.32	17.6	

Table 13: Description and extent of vegetation units identified within the site (continued)

Code	Description	Sample/s	Total area (ha)	Proportion of site (%)	Representative photograph
Mangrove	Closed woodland of *Ficus* sp. and *Adansonia gregorii* over sparse shrubland of *Serbania erubescens* over a sparse forbland of *Trianthema triquetrum.* It should be noted that the mangrove community only extends marginally into the site, with Relevé 10 capturing the edge of the mangrove vegetation.	R10	0.19	0.8	
Cleared/hardstand/scattered vegetation	Heavily disturbed areas comprising non-native, bare ground, roads, scattered native plants and firebreaks.	-	7.1	28.9	

Table 13: Description and extent of vegetation units identified within the site (continued)

Code	Description	Sample/s	Total area (ha)	Proportion of site (%)	Representative photograph
Water body	Artificial waterbody	-	0.03	0.1	

4.2.2 Vegetation condition

The extent of vegetation by condition category is detailed in **Table 14** and shown in **Figure 8**.

Table 14: Extent of vegetation condition categories within the site

Condition category (Trudgen 1988)	Total area (ha)	Proportion of site (%)
Excellent	0	0
Very good	2.13	9
Good	0	0
Poor	15.3	62
Degraded	0	0
Completely degraded	7.2	29

4.2.3 Threatened and priority ecological communities

No threatened or priority ecological communities were identified within the site.

4.3 Fauna

4.3.1 Species inventory

A total of ten native and one non-native fauna species were recorded during the field survey.

A complete species list is provided in **Appendix G.**

4.3.2 Threatened, specially protected and priority fauna

One conservation significant fauna species, *Crocodylus porosus* (saltwater crocodile) (listed as migratory under the EPBC Act and the BC Act), was recorded within the site. One saltwater crocodile individual was recorded in the **water body** habitat.

The following threatened, specially protected and priority fauna species are considered to have potential to occur in the site as the survey limitations preclude confirmation of their absence:

- *Actitis hypoleucos* (common sandpiper) (listed as migratory under the EPBC Act and the BC Act)
- *Apus pacificus* (Pacific swift) (listed as migratory under the EPBC Act and the BC Act)
- *Calidris acuminata* (sharp-tailed sandpiper) (listed as migratory under the BC Act and vulnerable and migratory under the EPBC Act)
- *Calidris ruficollis* (red-necked stint) (listed as migratory under the EPBC Act and the BC Act)
- *Chloebia gouldiae* (Gouldian finch) (listed as a P4 in WA and endangered under the EPBC Act)
- *Erythrotriorchis radiatus* (red goshawk) (listed as endangered under the EPBC Act and the BC Act)
- *Falco hypoleucos* (grey falcon) (listed as vulnerable under the EPBC Act and the BC Act)
- *Glareola maldivarum* (oriental pratincole) (listed as migratory under the EPBC Act and the BC Act)

- *Hirundo rustica* (barn swallow) (listed as migratory under the BC Act and migratory and marine under the EPBC Act)
- *Limosa lapponica* (bar-tailed godwit) (listed as migratory under the EPBC Act and the BC Act)
- *Limosa limosa* (black-tailed godwit) (listed as migratory under the BC Act and endangered and migratory under the EPBC Act)
- *Numenius madagascariensis* (eastern curlew) (listed as critically endangered and migratory under the EPBC Act and critically endangered under the BC Act)
- *Pandion haliaetus* (osprey) (listed as migratory under the EPBC Act and the BC Act)
- *Rostratula australis* (Australian painted snipe) (listed as endangered under the EPBC Act and the BC Act)
- *Sternula albifrons* (little tern) (listed as migratory under the EPBC Act and the BC Act)
- *Tringa nebularia* (common greenshank) (listed as endangered and migratory under the EPBC Act and migratory under the BC Act)
- *Tringa stagnatilis* (marsh sandpiper) (listed as migratory under the EPBC Act and the BC Act)
- *Charadrius leschenaultia* (great sand plover) (listed as vulnerable and migratory under the EPBC Act and vulnerable under the BC Act)
- *Charadrius veredus* (oriental plover) (listed as migratory under the EPBC Act and the BC Act)
- *Cuculus optatus* (oriental cuckoo) (listed as migratory under the EPBC Act and the BC Act)
- *Calidris pugnax* (ruff) (listed as migratory under the EPBC Act and the BC Act)
- *Calidris subminuta* (long-toed stint) (listed as migratory under the EPBC Act and the BC Act)
- *Chlidonias leucopterus* (white-winged black tern) (listed as migratory under the EPBC Act and the BC Act)
- *Elanus scriptus* (letter-winged kite) (listed as a P4 in WA)
- *Falco peregrinus* (peregrine falcon) (listed as otherwise specially protected under the BC Act)
- *Gelochelidon nilotica* (gull-billed tern) (listed as migratory under the EPBC Act and the BC Act)
- *Numenius minutus* (little curlew) (listed as migratory under the EPBC Act and the BC Act)
- *Numenius phaeopus* (whimbrel) (listed as migratory under the EPBC Act and the BC Act)
- *Plegadis falcinellus* (glossy Ibis) (listed as migratory under the EPBC Act and the BC Act)
- *Pluvialis fulva* (Pacific golden plover) (listed as migratory under the EPBC Act and the BC Act)
- *Tringa glareola* (wood sandpiper) (listed as migratory under the EPBC Act and the BC Act)
- *Botaurus dubius* (Australian little bittern) (listed as a P4 in WA)
- *Dasyurus hallucatus* (northern quoll) (listed as endangered under the EPBC Act and the BC Act)
- *Hydromys chrysogaster* (rakali) (listed as a P4 in WA)
- *Leggadina lakedownensis* (Lakeland Down's short-tailed mouse) (listed as a P4 in WA)
- *Rhinonicteris aurantia* (orange leaf-nosed bat) (listed as a P4in WA)
- *Vespadelus douglasorum* (yellow-lipped cave bat) (listed as a P2 in WA)
- *Crocodylus johnstoni* (freshwater crocodile) (listed as otherwise specially protected under the BC Act)
- *Varanus mertensi* (Merten's water monitor) (listed as endangered under the BC Act and EPBC Act)
- *Chelodina kuchlingi* (Kuchling's snake-necked turtle) (listed as critically endangered under the BC Act)

4.3.3 Declared pests

One non-native species listed as a declared pest (C1) pursuant to the BAM Act, **Rhinella marina* (cane toad) was identified within the site.

4.3.4 Fauna habitat

Five broad fauna habitats were identified within the site. A description, the area and a representative photograph of each habitat is provided in **Table 15** and shown in **Figure 9.**

Table 15: Description and extent of fauna habitats identified within the site

Fauna habitat	Description	Total area (ha)	Proportion of site (%)	Representative photograph
Grassland	Areas of varying density of grasses. Often coincides with disturbance and subsequently weeds. Likely to utilise: - Gouldian finch (*Chloebia gouldiae* (EN, P4)) - Peregrine falcon (*Falco peregrinus* (OS)) - Grey falcon (*Falco hypoleucos* (VU)) - Letter-winged kite (*Elanus scriptus* (P4)) - Northern quoll (*Dasyurus hallucatus* (EN)) -Lakeland Down's short-tailed mouse (*Leggadina lakedownensis* (P4))	12.91	52.6	
Cleared/hardstand/scattered vegetation	Cleared areas around infrastructure, mainly consisting of planted trees. Likely to utilise: - Peregrine falcon (*Falco peregrinus* (OS)) - Barn swallow (*Hirundo rustica* (MI, MA)) - Oriental plover (*Charadrius veredus* (MI))	7.1	28.9	

Table 15: Description and extent of fauna habitats identified within the site (continued)

Fauna habitat	Description	Total area (ha)	Proportion of site (%)	Representative photograph
Mangrove low woodland	Seasonally inundated woodland of *Ficus* sp. and *Adansonia gregorii* over scattered shrubs and forbs. Likely to utilise: - Pacific swift (*Apus pacificus* (MI)) - Gouldian finch (*Chloebia gouldiae* (EN, P4)) - Rakali (*Hydromys chrysogaster* (P4)) - Merten's water monitor (*Varanus mertensi* (EN)) - Saltwater crocodile (*Crocodylus prosus* (OS,MI-MA)) - Freshwater crocodile (*Crocodylus johnstoni* (OS)) - Kuchling's snake-necked turtle (*Chelodina kuchlingi* (CR)) -Additional migratory birds.	0.19	0.8	
Saline flats	Estuarine salt flats consisting of little to no vegetation or microhabitat features. May become inundated during wet season. Likely to utilise: - Oriental plover (*Charadrius veredus* (MI)) --Additional migratory birds	4.32	17.6	

Table 15: Description and extent of fauna habitats identified within the site (continued)

Fauna habitat	Description	Total area (ha)	Proportion of site (%)	Representative photograph
Water body	Man-made pit currently holding water. Highly disturbed by machinery excavation on peripheries and roadworks around and up to edge of body.May become further inundated during wet season, providing connectivity to nearby river. Likely to utilise: - Pacific swift (*Apus pacificus* (MI)) - Gouldian finch (*Chloebia gouldiae* (EN, P4)) - Barn swallow (*Hirundo rustica* (MI, MA)) - Saltwater crocodile (*Crocodylus prosus* (OS,MI-MA)) - Freshwater crocodile (*Crocodylus johnstoni* (OS)) --Additional migratory birds	0.03	0.1	

5 Discussion

5.1 Flora

Historical disturbance was evident across parts of the site, including previous ground disturbance and fire. Evidence of past fire disturbance was observed throughout portions of the site and is likely to have influenced vegetation structure, species composition, and plant growth. In a number of cases, specimens appeared to be regenerating following fire and exhibited stunted growth or lacked key diagnostic characteristics such as flowers, fruits, or mature foliage, which made identification to species level difficult. As a result, some taxa recorded during the survey could only be identified to genus level or were unidentifiable.

5.1.1 Threatened and priority flora

No threatened flora species were recorded during the survey and none are considered likely to occur.

The **grassland** vegetation unit supports suitable habitat for *Brachychiton incanus* (P3*), Goodenia byrnesii* (P3) and *Dolichandrone filiformis* (P2) and DBCA records of these taxa occur near the site (DBCA 2026). The individuals recorded appeared to comprise stunted regrowth, likely due to previous fire disturbance observed throughout the site. Due to the disturbed nature of the site and the presence of regenerating vegetation, it is considered possible that additional juvenile individuals may occur within the site.

No individuals of *Neptunia valida* (P2) were recorded within the site but two DBCA records occur very close (DBCA 2026). The northern DBCA record is from 2000 but was unable to be relocated during the current survey despite comprehensive traverses. The area appears to have been significantly impacted by disturbance since the original record, with an industrial wreckers yard now occurring at the mapped location. The other DBCA record occurs to the south-west of the site and is from 2008. The habitat at the mapped DBCA location is not suitable and the species was not present. As the species was not recorded during the field survey and no limitations apply it is not considered to occur in the site.

A single *Cucumis* sp. Individual was recorded during the survey. The specimen was submitted to the WA Herbarium for identification. However, a definitive identification could not be made. The WA Herbarium confirmed that the specimen is not *Cucumis* sp. Bastion Range (A.A. Mitchell et al. AAM 10710) (Priority 1), as it does not exhibit the diagnostic morphological features of that taxon. No other threatened or priority *Cucumis* species occur in the region. As only a single individual was recorded in a disturbed area adjacent to the port, the specimen is considered most likely to be an introduced (non-native) species that has spread into the area from surrounding disturbed land.

An additional eight priority species were not recorded during the survey but are considered to have potential to occur in the site:

- *Gomphrena longistyla (*P2)
- *Goodenia heterotricha* (P1)
- *Iseilema trichopus* (P1)

- *Polygala crassitesta* (P1)
- *Solanum pugiunculiferum* (P1)
- *Sphaeranthus africanus* (P1)
- *Stylidium incognitum* (P2)
- *Utricularia tridactyla* (P1).

These species are all annuals with flowering periods outside of the survey timing (April). Vegetation in poor and better condition may provide suitable habitat for the above taxa. Further survey during the appropriate flowering times would be required to confirm the presence or absence of these taxa.

The remainder of the threatened and priority flora identified during the desktop review are considered unlikely to occur within the site based on habitat preferences, known distribution, and survey findings.

It is inherently difficult to conclusively confirm the absence of flora, as constraints such as time, access, observer error and seasonal variability inevitably introduce uncertainty into the outcomes of biological surveys. Additionally, many species—particularly threatened and priority flora—may be cryptic or variable in their growth and expression. The assigned likelihood of occurrence should therefore be interpreted as a reasoned judgement based on the information available from the field survey(s), acknowledging the survey level and identified limitations (refer **Section 3.2.7**).

5.2 Vegetation

Vegetation within the survey area ranged from ‘very good’ to ‘completely degraded’ condition. The **grassland** vegetation unit was generally mapped as being in ‘poor’ condition, as it retained the basic vegetation structure and regenerative capacity despite clear signs of disturbance. Evidence of relatively recent fire disturbance was observed throughout this vegetation unit and appears to have promoted a dense grass-dominated understorey, along with the proliferation of weed species such as **Calotropis procera.* In many areas, grasses were more dominant than the shrub and tree layers, with woody vegetation occurring as sparse and scattered individuals only. Despite these impacts, the vegetation still retained native structural components and some ability to regenerate, which aligns more closely with the EPA definition of ‘poor’ condition rather than ‘degraded’.

It is likely that portions of the site previously supported vegetation in better condition prior to recent fire disturbance. This was particularly evident in the grassland vegetation unit in releves R5, R7, R8, R9, R11, R12 and R13 where the vegetation typically comprised a dense grass dominated understorey with only scattered shrubs present. In comparison, areas near Q6 along the ridge slope contained a lower density of grasses, a greater diversity of native herbs, and a more prominent shrub and tree layer. While the dominant species composition between these areas was broadly similar, the variation in vegetation structure suggests differing levels of disturbance, with the ridge slope vegetation likely representing a closer approximation of the original vegetation structure and condition.

5.3 Fauna

The ten native fauna species recorded within the site, including saltwater crocodile, are generally common and widespread across the East Kimberley and therefore records for these species were not

unexpected. The small number of fauna species recorded during the survey is due to a lack of fauna expertise present, the low fauna values within the site, and the short time period spent on site.

5.3.1 Threatened, specially protected and priority fauna

A further 41 conservation significant species were considered likely to occur in the site or have potential to occur in the site, as detailed below.

Likely to occur

- Pacific swift (*Apus pacificus* (MI)) is a highly mobile species that may opportunistically fly over or forage in the site for short periods of time as part of a much larger home range. The species does not breed in Australia, but may occur across the entirety of the country, and any occurrence of Pacific swift in the site would likely be aerial and temporary, largely independent from terrestrial habitat. It may be observed as a seasonal visitor to the site, possibly foraging over the **water body** or **mangrove shrubland** habitats.
- Gouldian finch (*Chloebia gouldiae* (EN, P4)) occurs across the Kimberley region to the Top End, and along the Gulf Coast to Cape York Peninsula and as far south as Georgetown, Queensland. Their populations have been severely impacted by inappropriate fire regimes, agriculture, and bird trapping. They breed in savannah woodland on stony hills with eucalypts over dense native grasses. Also found on grassy flats, trees near water, vegetation on watercourses, and scrublands with spinifex. The Gouldian finch is not often seen, however if there are grasses available in the **grassland** habitat that provide suitable seeds for foraging, they may be an occasional visitor. They may also use the **water body** and **mangrove shrubland** habitats, particularly when there is standing water.
- Peregrine falcon (*Falco peregrinus* (OS)) is a ubiquitous, mobile, and widely distributed raptor. They can occur in a variety of habitats and often breed on cliff ledges or crevices but are also known to use tree hollows or nests of other raptors or corvids, and so may nest in tall trees. If suitable resources are available, they may nest or roost in the nearby ranges, however the site offers only foraging opportunities in the form of the **grassland** and **cleared land with scattered vegetation** habitats. Therefore, they could be a regular visitor to the site.
- Grey falcon (*Falco hypoleucos* (VU)) is a rare raptor that inhabits the arid and semi-arid regions of Australia. A resident or nomadic visitor to inland parts of the mainland, they are sedentary and part migratory, moving to northern Australia during autumn and winter, and seek more watered habitats during drought. The grey falcon prefers lightly timbered plains, gibber plains, timbered watercourses, and pastoral lands. This species would likely be an occasional or seasonal visitor, perhaps utilising the site as part of its nomadic movements. The **grassland** habitat provides foraging opportunities, particularly where there are trees available.
- Letter-winged kite (*Elanus scriptus* (P4)) is increasingly rare, though was once a widespread raptor, with population fluctuations coinciding with that of long-haired rats (*Rattus villosissimus*) because of flooding events throughout inland Australia. They are typically found in grasslands with trees and tree-lined watercourses, such as coolibah-lined channels in the Georgina and Diamantina river systems. The letter-winged kite would likely be an irregular visitor, responding to environmental conditions and booms in prey species. The **grassland** habitat provides the best foraging opportunity within the site, due to the higher likelihood of small mammals residing within.

- Barn swallow (*Hirundo rustica* (MI, MA)) is a widespread swallow of the northern hemisphere, similar in appearance to the welcome swallow. It is a non-breeding summer migrant to northern Australia, observed almost annually in open country, agricultural land close to water, and towns. This bird would likely be observed in the air space over the **cleared land with scattered vegetation** habitat and the **water body** habitat as a seasonal visitor to the site.
- Common sandpiper (*Actitis hypoleucos* (MI)), marsh sandpiper (*Tringa stagnatilis* (MI)), sharp-tailed sandpiper (*Calidris acuminata* (VU-MI)), wood sandpiper (*Tringa glareola* (MI)), oriental pratincole (*Glareola maldivarum* (MI)), common greenshank (*Tringa nebularia* (EN-MI)), eastern curlew (*Numenius madagascariensis* (CR-MI)), little curlew (*Numenius minutus* (MI)), whimbrel (*Numenius phaeopus* (MI)), glossy ibis (*Plegadis falcinellus* (MI)), and osprey (*Pandion haliaetus* (MI)) are migratory shore birds and marine and aquatic specialists that utilise a range of habitats. Estuaries, mangroves, mudflats, saltmarshes, saline and freshwater wetlands, freshwater lakes and swamps, floodwaters, saltworks and sewage ponds, are all examples of habitats that this group of birds occur in. The **mangrove shrubland** and **water body** habitats are the most suitable for seasonal visitation by this suite of birds, which offer the best foraging opportunities. They may also utilise the **saline flat** habitat during periods of inundation.
- Oriental plover (*Charadrius veredus* (MI)) is a regular summer migrant to Australia, most regularly in northern coastal and inland areas. It is often found on open plains and bare country far from water, also muddy or sandy wastes near inland swamps or tidal mudflats, claypans, and coastal marshes. The oriental plover is likely a seasonal visitor to the site or surrounds. Within the site it may frequent the drier habitats, such as the **saline flat**, or flat, open areas of the **cleared/hardstand/scattered vegetation**.
- Rakali (*Hydromys chrysogaster* (P4)) is a native water rat which relies on permanent fresh or brackish waterbodies with intact riparian vegetation and consolidated banks for constructing burrows. It often follows watercourses and is semi-aquatic, feeding mainly on aquatic invertebrates and fish. This species is more likely a regular visitor to the site rather than resident, due to the sparse or lack of riparian vegetation. The **mangrove shrubland** habitat provides areas suitable for burrowing and extensive foraging opportunities.
- Northern quoll (*Dasyurus hallucatus* (EN)) occurs across northern Australia, mostly within 200 km of the coast. They occur in a range of vegetation types but are most abundant in rocky eucalypt woodland. It is more likely that northern quoll would be found in the range system that overlooks the site, however, if present, it may utilise the site as an occasional visitor for foraging purposes. In particular, less dense areas of **grassland** habitat that contain some tree cover my be suitable.
- Lakeland Down's short-tailed mouse (*Leggadina lakedownensis* (P4)) occurs across northern Australia. In Western Australia, it occurs on sandy soils and cracking clays, as well as stony hummock grassland in the Pilbara region. The **grassland** habitat would provide the only suitable habitat within the site, though due to the species small home range size, if it does occur, it would be a resident.
- Merten's water monitor (*Varanus mertensi* (EN)) are semi-aquatic reptiles utilising perennial and semi-permanent pools, margins of permanent streams and rivers, floodplain billabongs, lagoons, and man-made dams and irrigation channels. They construct nesting burrows close to water bodies, laying eggs during the early dry season in the East Kimberley region. This species would most likely utilise the **mangrove shrubland** habitat, as it provides extensive foraging

opportunities, as well as suitable habitat for burrow construction. Therefore, it may likely be a resident or regular visitor to the site and may traverse the site during foraging.

- Saltwater crocodile (*Crocodylus prosus* (OS,MI-MA)) are widespread in northern half of coastal Australia, inhabiting coastal rivers and swamps. They also occur inland along major coastal drainage systems and occasionally in open sea waters. With the presence of saltwater crocodile in the nearby river system, it is likely they would regularly visit the site in the **mangrove shrubland** habitat. This species has been observed using the **water body** habitat within the site, which it likely navigated into during a flood event.
- Freshwater crocodile (*Crocodylus johnstoni* (OS)) is found in the northern parts of Australia. It occupies freshwater creeks, rivers, wetlands, and billabongs. Wet season allows them to move throughout the floodplains. With the species known to occur in the nearby river system, it is likely the species would regularly visit the site in the **mangrove shrubland** habitat. During periods of inundation, they may also opportunistically traverse the site, utilising the **water body** for foraging opportunities.
- Kuchling's snake-necked turtle (*Chelodina kuchlingi* (CR)) is a poorly known species distributed across the Ord River floodplain. There is recent and ongoing taxonomic research on the species, which may impact its conservation status. It is most likely that this species would occur in the **mangrove shrubland** habitat due to its connectivity to the adjacent river system. Should Kuchling's snake-necked turtle be present, it may be a resident or regular visitor to this habitat within the site.

Potential to occur

- Red-necked stint (*Calidris ruficollis* (MI)), bar-tailed godwit (*Limosa lapponica* (MI)), black-tailed godwit (*Limosa limosa* (EN,MI)), little tern (*Sternula albifrons* (MI)), great sand plover (*Charadrius leschenaultia* (VU,MI)), ruff (*Calidris pugnax* (MI)), white-winged black tern (*Chlidonias leucopterus* (MI)), gull-billed tern (*Gelochelidon nilotica* (MI)), and Pacific golden plover (*Pluvialis fulva* (MI)) are migratory shore birds and marine and aquatic specialists that utilise a range of habitats. Estuaries, mangroves, mudflats, saltmarshes, saline and freshwater wetlands, freshwater lakes and swamps, floodwaters, saltworks and sewage ponds, are all examples of habitats that this group of birds occur in. The **mangrove shrubland** and **water body** habitats are the most suitable for potential seasonal visitation by this suite of birds, which offer the best value foraging opportunities. They may also utilise the **saline flat** habitat during periods of inundation.
- Australian painted snipe (*Rostratula australis* (EN)), long-toed stint (*Calidris subminuta* (MI)), and Australian little bittern (*Botaurus dubius* (P4)) are mainly freshwater specialists. They occupy a range of habitats including shallow terrestrial freshwater (and occasionally brackish) swamps and wetlands, river pools, claypans, and lagoons. Long-toed stint can also be found using samphire flats around estuaries and salt lakes. Australian little bittern prefers dense vegetation around or within its aquatic habitats, screened with trees. These birds could potentially utilise the site seasonally or irregularly. The **water body** and **saline flats** provide suitable habitat for temporary foraging use. Australian little bittern may be more inclined to utilise the **mangrove shrubland** habitat, due to the higher density vegetation available.
- Red goshawk (*Erythrotriorchis radiatus* (EN)) is Australia's rarest raptor with a broad distribution across northern Australia. They are solitary and very sparsely dispersed, with estimates suggesting the population at less than 400 pairs. Their preferred habitats are open forests and

woodlands, especially near watercourses, wetlands, and on the fringes of rainforests. With the presence of watercourses and a water body near and within the site, red goshawk may be a potential visitor to the site or surrounding area. It is unlikely that this bird would reside within or near the site but may forage in the vicinity when passing through.

- Oriental cuckoo (*Cuculus optatus* (MI)) is a widespread Asian species, regularly migrating to coastal northern and eastern Australia during its non-breeding season (September to May). It can be found from the Kimberley to northeast Queensland, utilising a range of habitats, including monsoon forest and rainforest edges, leafy trees in paddocks, river flats, and mangroves. With the site adjacent to a large river and the presence of suitable **mangrove shrubland** habitat, there is potential for seasonal visitation by the oriental cuckoo. It may also utilise the planted trees in the **cleared/hardstand/scattered vegetation** habitat whilst in the vicinity.
- Orange leaf-nosed bat (*Rhinonicteris aurantia* (P4)) occurs from far northwest Queensland, through the Top End and Kakadu, and into the Kimberley region. They require hot, very humid cave roosts, which they may disperse from during the wet season. Foraging occurs in a variety of habitats, including monsoon rainforest, tall open forest, mangroves, palm forest, open savannah woodland, black soil grassland, and spinifex grassland. The orange leaf-nosed bat would only utilise the surrounding range system for roosting, but foraging opportunities occur within the site across all habitats. The availability of insects, in particular over the **water body** and through the **mangrove shrubland** habitat, provide foraging opportunities. Additionally, the openness of the **cleared/hardstand/scattered vegetation** habitat may be preferred for navigating through the landscape due to the lack of obstacles.
- Yellow-lipped cave bat (*Vespadelus douglasorum* (P2)) is a poorly known species restricted to the Kimberley region. It is widespread within its range, occurring in areas of rainfall greater than 800 mm per year. They roost in limestone and sandstone caves in small colonies up to 80 individuals and forage in areas containing streams in tropical woodland, riparian zones dominated by pandanus, and melaleuca woodlands. The yellow-lipped cave bat may utilise the surrounding range system for roosting, but foraging opportunities occur within the site across all habitats. The availability of insects, in particular over the **water body** and through the **mangrove shrubland** habitat, provide foraging opportunities. Additionally, the openness of the **cleared land with scattered vegetation** habitat may be preferred for navigating through the landscape due to the lack of obstacles.

5.4 Fauna habitat

The habitat values within the site have been heavily modified by clearing for infrastructure, which has resulted in the removal of most of the native vegetation.

Habitat values in the site are greatest with respect to areas of **mangrove shrubland** and **water body** habitats. These habitats provide a source of foraging for a range of species, particularly the marine and aquatic avifauna that are deemed likely or to have potential to occur on site, as per the desktop assessment. Additionally, saltwater crocodile has been observed in the **water body** habitat and is likely to utilise the **mangrove shrubland** habitat during periods of inundation to navigate between water bodies. Merten's water monitor, freshwater crocodile, and Kuchling's snake-necked turtle are also likely to primarily use these habitats within the site.

The **saline flats** habitat may hold some value for fauna with specialist foraging habits, but this may be impacted by the high level of disturbance and presence of weed species within the site. The **grassland** habitat is also subject to disturbance and presence of weeds, but where growth is dense it may provide suitable cover and shelter for small mammal species, or potentially a food source for small, seed eating birds.

The remaining habitat is likely to be predominantly used by common and widespread native and non-native fauna with non-specific habitat requirements, which enable them to persist in highly modified environments.

6 Conclusions

Outcomes of the assessment include the following:

- A total of 77 native and 14 non-native flora species were recorded within the site.
- Three priority flora species were recorded:
  - *Brachychiton incanus* (priority three in Western Australia (WA))
  - *Dolichandrone filiformis* (P2 in WA)
  - *Goodenia byrnesii* (P3 in WA).
- Eight additional priority flora species have potential to occur in the site.
- Four species listed as a declared pest (C3) pursuant to the State *Biosecurity and Agriculture Management Act 2007* (BAM Act) were recorded: **Calotropis procera, *Jatropha gossypifolia, *Vachellia nilotica* subsp. *indica* and **Azadirachta indica.* Two of these species are also listed as weeds of national significance, **Jatropha gossypifolia* and **Vachellia nilotica* subsp. *indica*
- Five vegetation units were identified within the site, ranging from 'very good' to 'completely degraded' condition:
  - **Grassland**
  - **Samphire**
  - **Mangrove**
  - **Water body**
  - **Cleared/hardstand/scattered vegetation.**
- No threatened or priority ecological communities were identified within the site.
- A total of ten native and one non-native fauna species were recorded within the site.
- One species listed as a declared pest (C1) pursuant to the BAM Act were recorded within the site: cane toad (*Rhinella marina*).
- One EPBC Act and BC Act listed fauna species was recorded within the site, saltwater crocodile (*Crocodylus prosus* (OS,MI-MA)).
- An additional 25 fauna species are likely to occur and 15 fauna species have potential to occur.
- Five broad habitat types were identified within the site:
  - **Grassland**
  - **Saline flats**
  - **Mangrove shrubland**
  - **Water body**
  - **Cleared/hardstand/scattered vegetation.**

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7.2 Online references

The online resources that have been utilised in the preparation of this report are referenced in **Section 7.1**, with access date information provided in **Table R1**.

Table R1 Access dates for online references

Reference	Date accessed	Website or dataset name
BoM (2026)	16 April 2026	Climate Data Online
DAFF (2021)	07 May 2026	Weeds of National Significance (WoNS)
DBCA (2025a)	19 March 2026	Threatened Ecological Communities
DCCEEW (2026)	16 March 2026 2023	Protected Matters Search Tool
DPIRD (2026)	07 May 2026	Western Australian Organism List
Western Australian Herbarium (2026)	07 May 2026	Florabase

Figures

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Figure 2: Environmental Context

Figure 3: Flora DBCA Results

Figure 4: Fauna DCBA Results

Figure 5: Survey Effort

Figure 6: Priority Flora

Figure 7: Vegetation Units

Figure 8: Vegetation Condition

Figure 9: Fauna Habitat

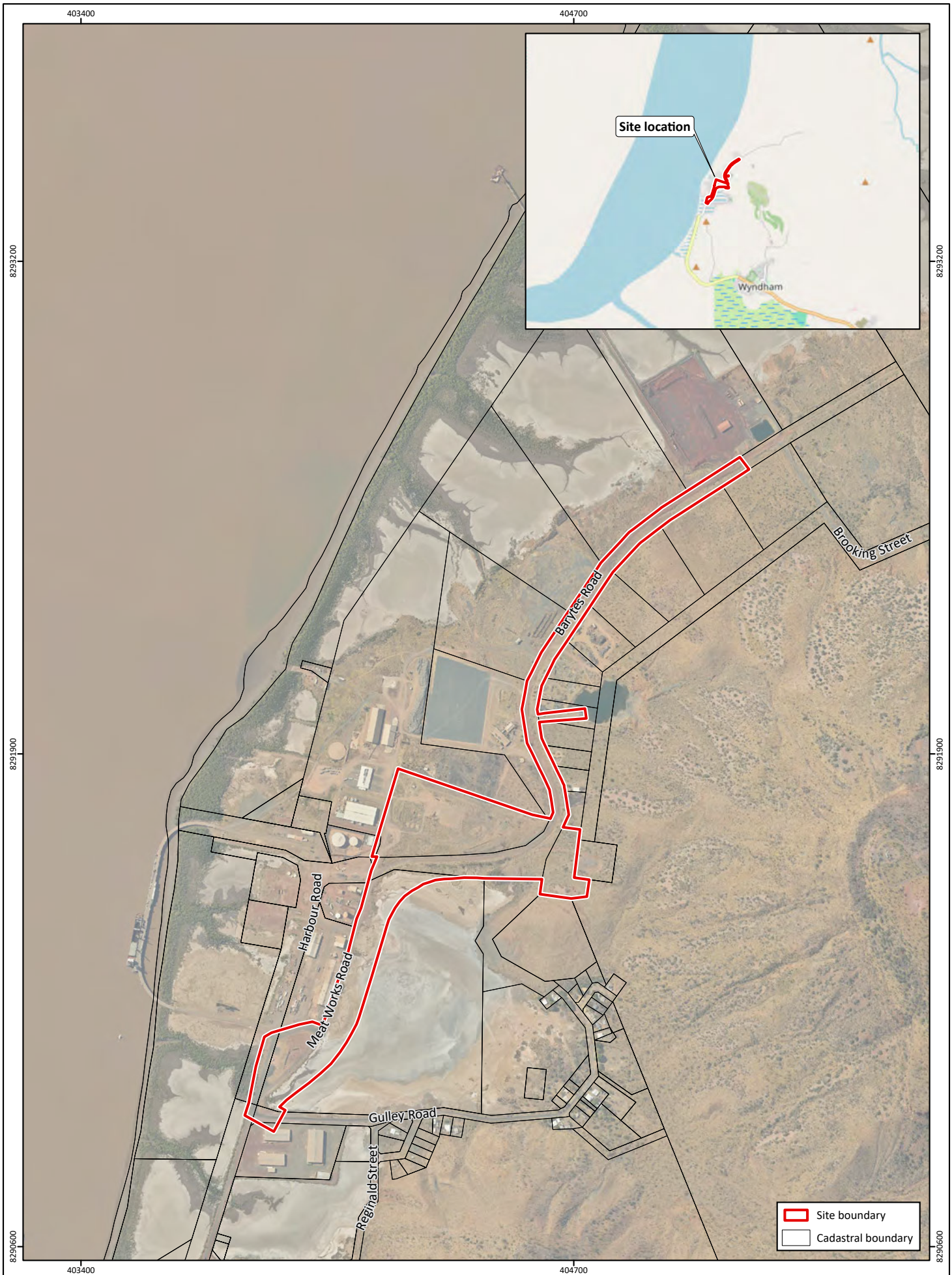


Figure 1: **Site Location**

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham
Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F01a
Drawn: WJC
Date: 21/05/2026
Checked: KLG
Approved: RAW
Date: 02/07/2026

N

0 150 300
Metres
Scale: 1:13,000@A4

GDA2020 MGA Zone 52

emerge ASSOCIATES

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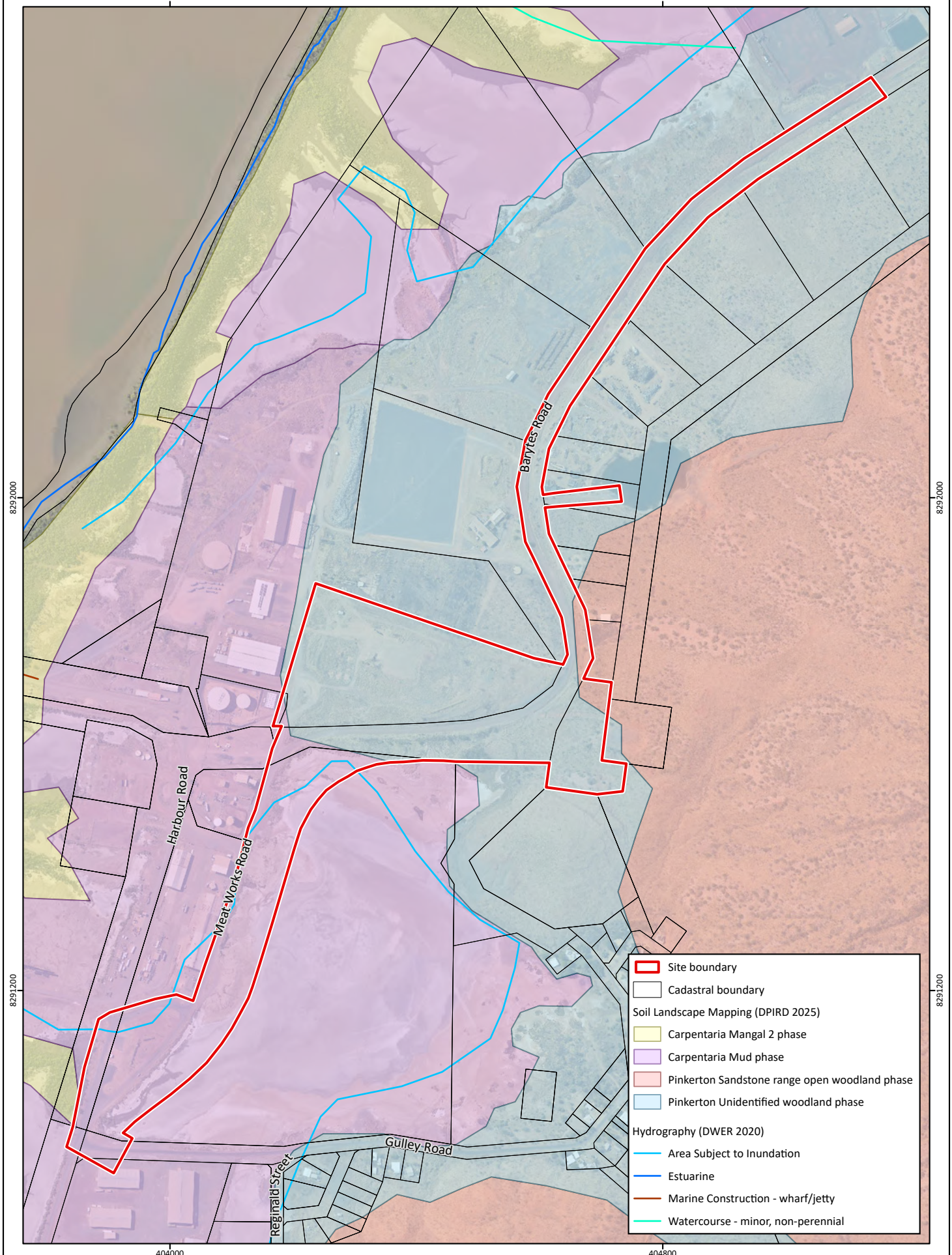


Figure 2: Environmental Context

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham
Client: Shire of Wyndham-East Kimberley

Plan Number:
EP26-017(04)--F02a

Drawn:	WJC
Date:	21/05/2026
Checked:	KLG
Approved:	RAW
Date:	02/07/2026

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Metres
Scale: 1:8,000@A4

GDA2020 MGA Zone 52

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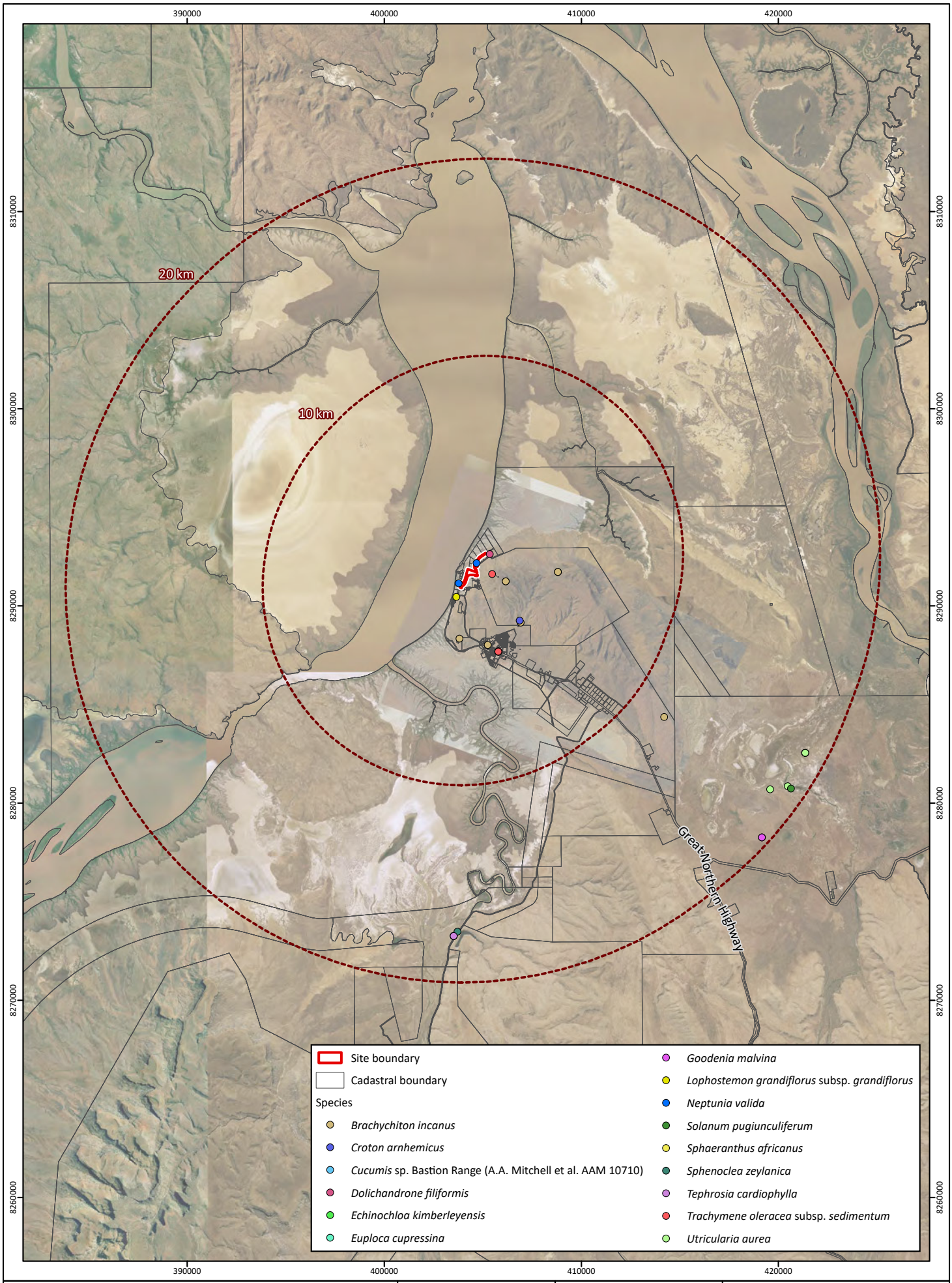


Figure 3: **Flora DBCA Results**

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham

Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F08

Drawn:	WJC
Date:	20/05/2026
Checked:	KLG
Approved:	RAW
Date:	02/07/2026

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Metres

Scale: 1:250,000@A4

GDA2020 MGA Zone 52

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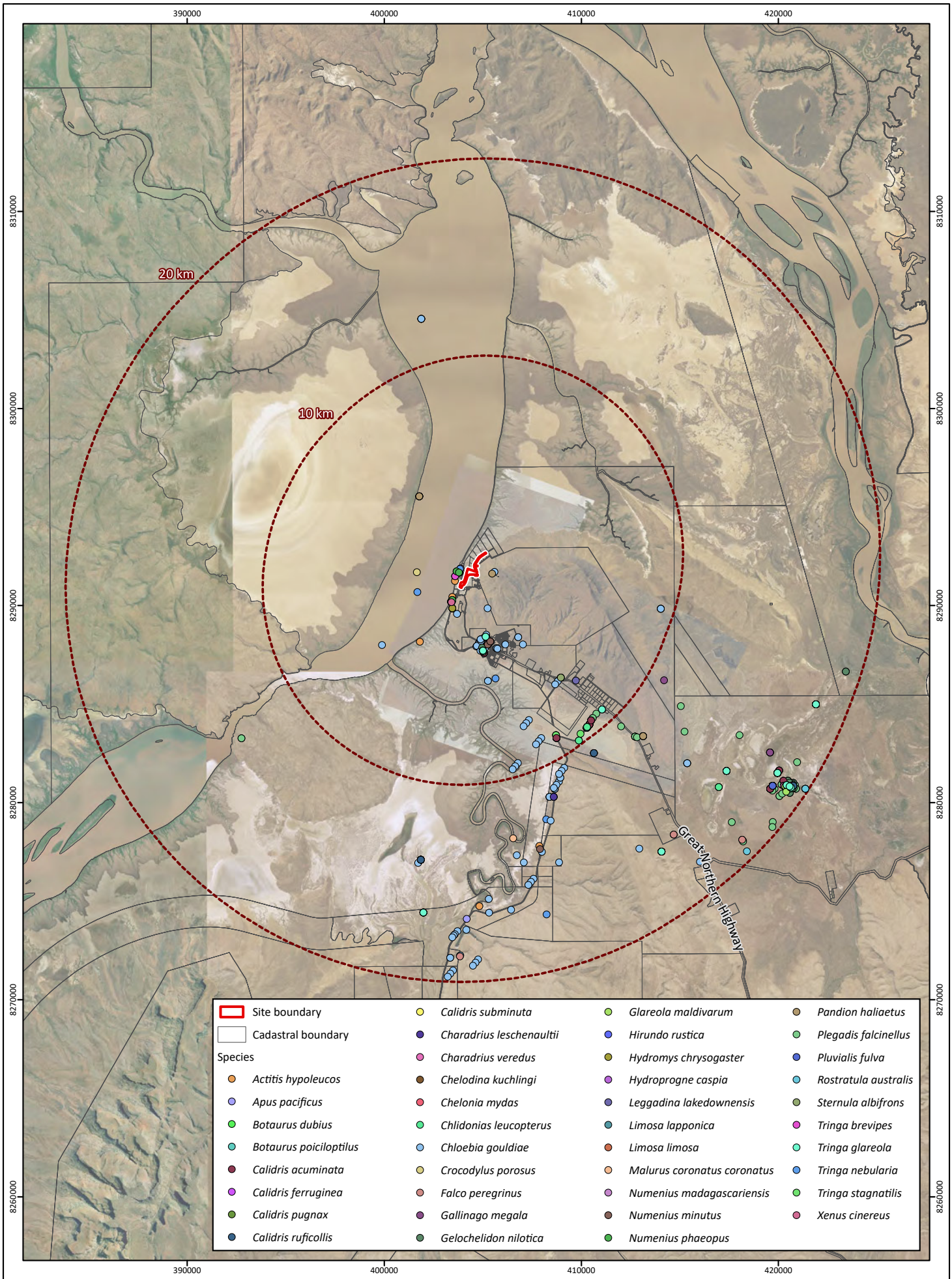


Figure 4: **Fauna DBCA Results**

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham

Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F09

Drawn:	WJC
Date:	20/05/2026
Checked:	KLG
Approved:	RAW
Date:	02/07/2026

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Metres
Scale: 1:250,000@A4

GDA2020 MGA Zone 52

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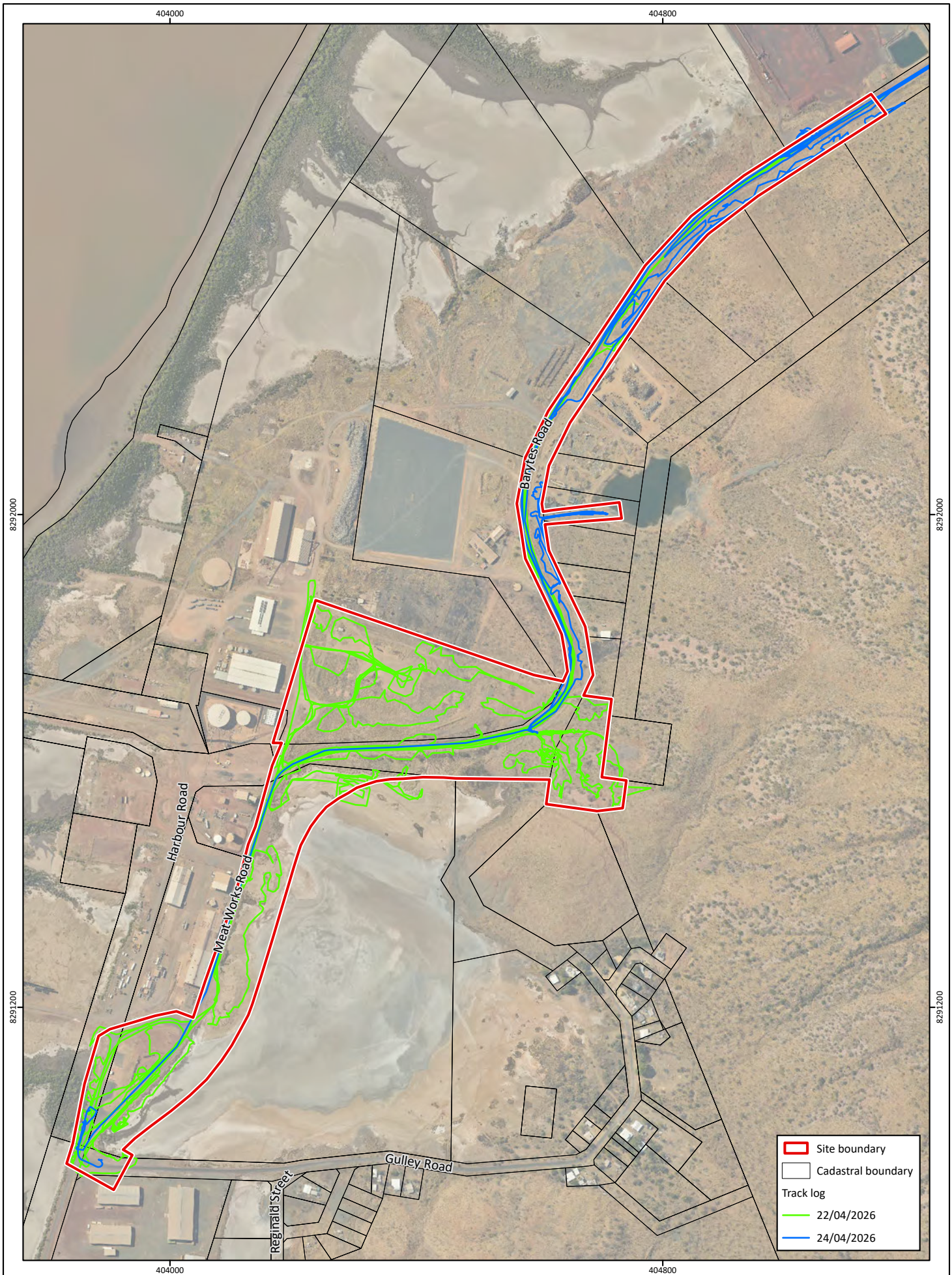


Figure 5: Survey Effort

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham
Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F03a
Drawn: WJC
Date: 21/05/2026
Checked: KLG
Approved: RAW
Date: 02/07/2026

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Metres
Scale: 1:8,000@A4

GDA2020 MGA Zone 52

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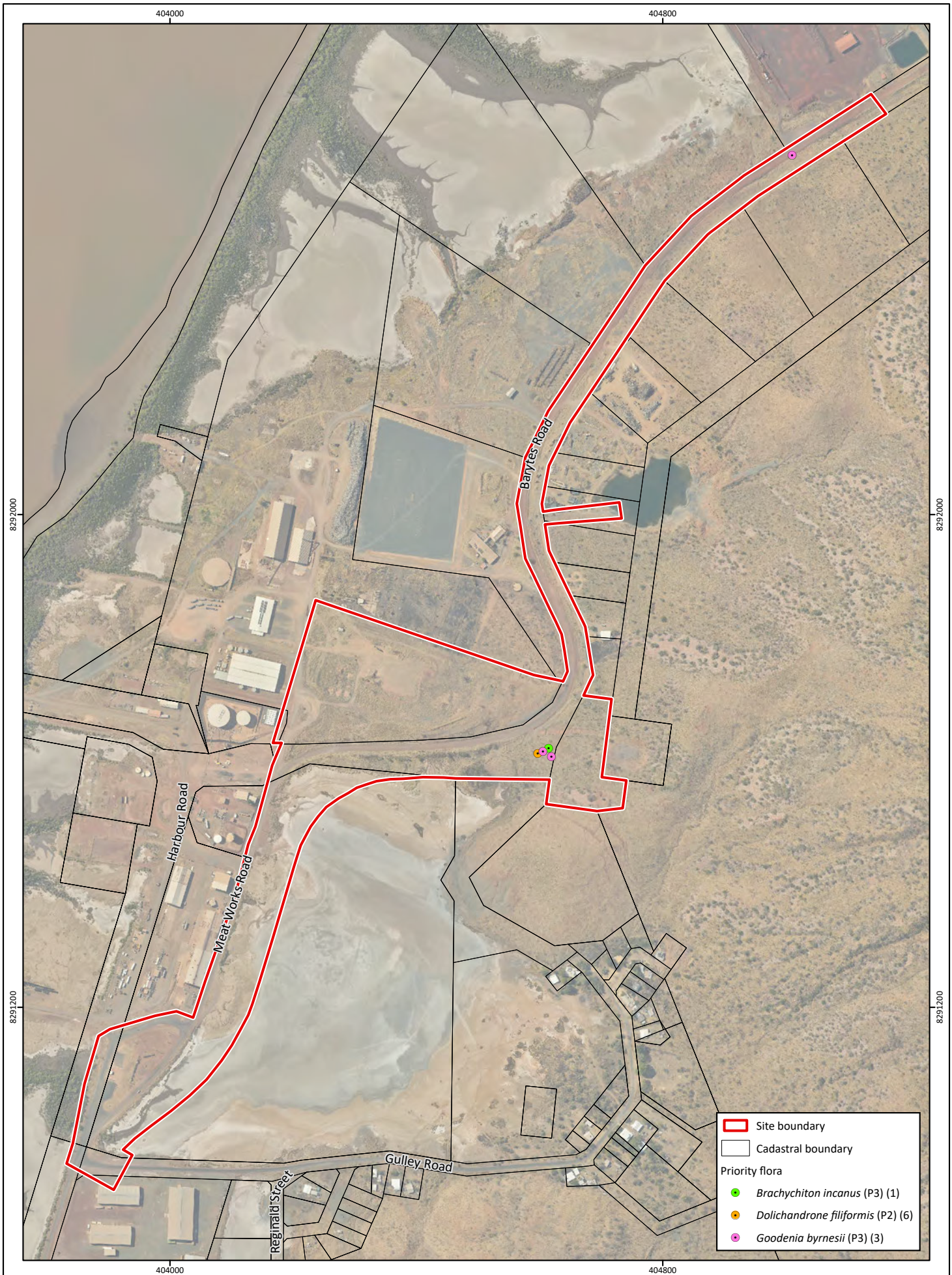


Figure 6: Priority Flora

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham
Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F04b
Drawn: WJC
Date: 30/06/2026
Checked: KLG
Approved: RAW
Date: 02/07/2026

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Metres
Scale: 1:8,000@A4

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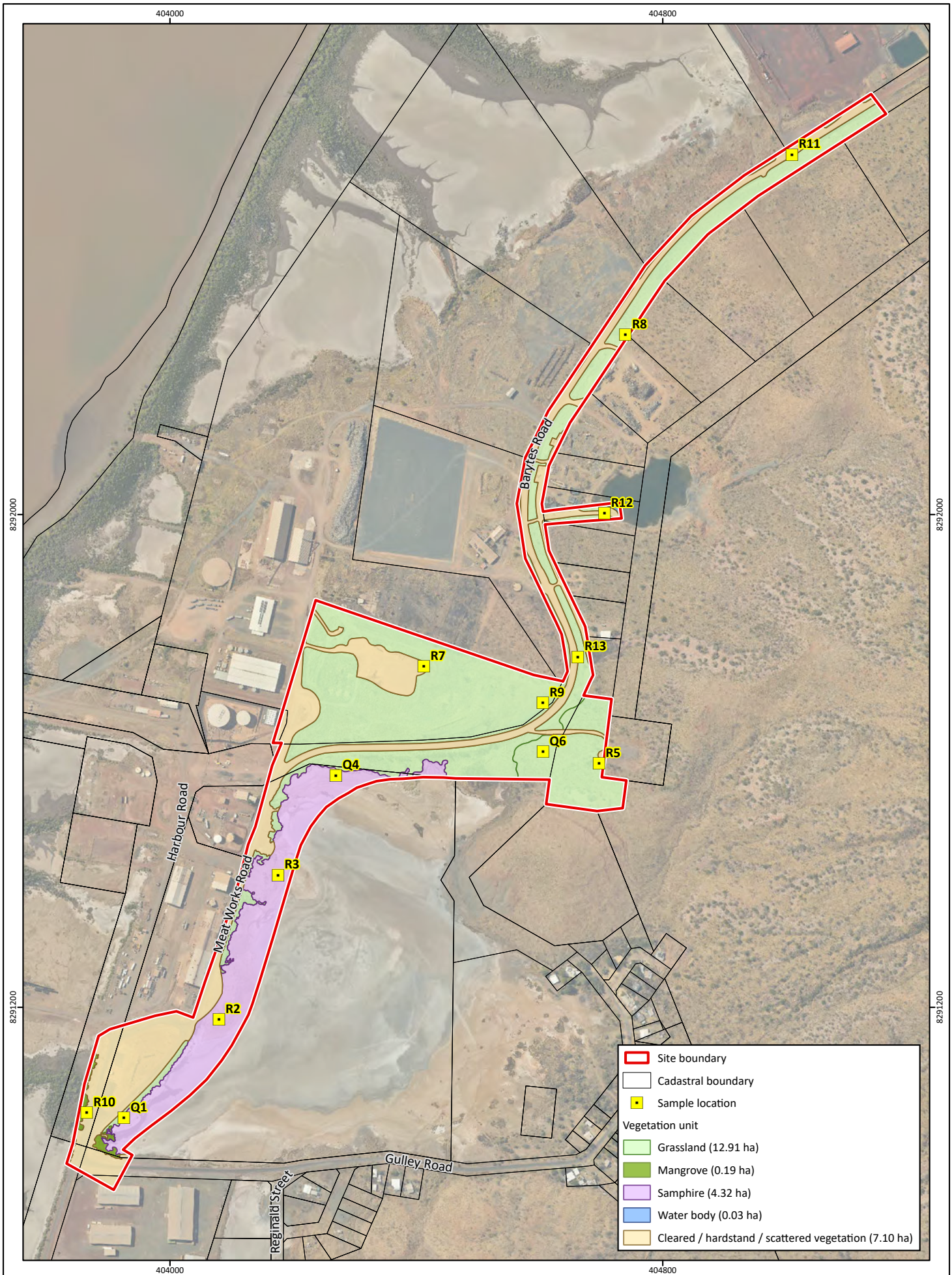


Figure 7: **Vegetation Units**

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham

Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F05a

Drawn:	WJC
Date:	21/05/2026
Checked:	KLG
Approved:	RAW
Date:	02/07/2026

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Metres
Scale: 1:8,000@A4

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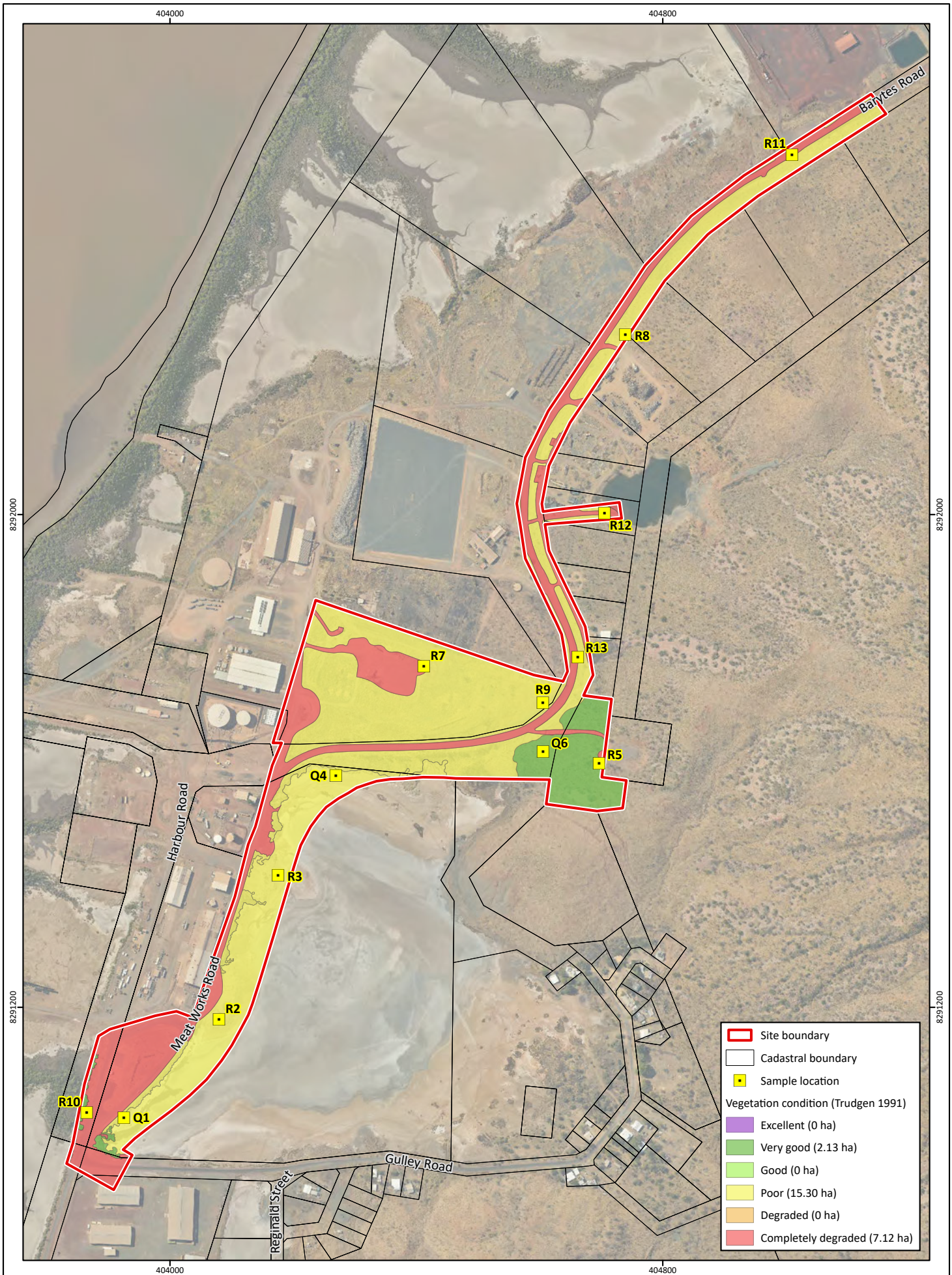


Figure 8: Vegetation Condition

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham
Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F06b
Drawn: WJC
Date: 06/08/2026
Checked: KLG
Approved: RAW
Date: 06/08/2026

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Metres
Scale: 1:8,000@A4

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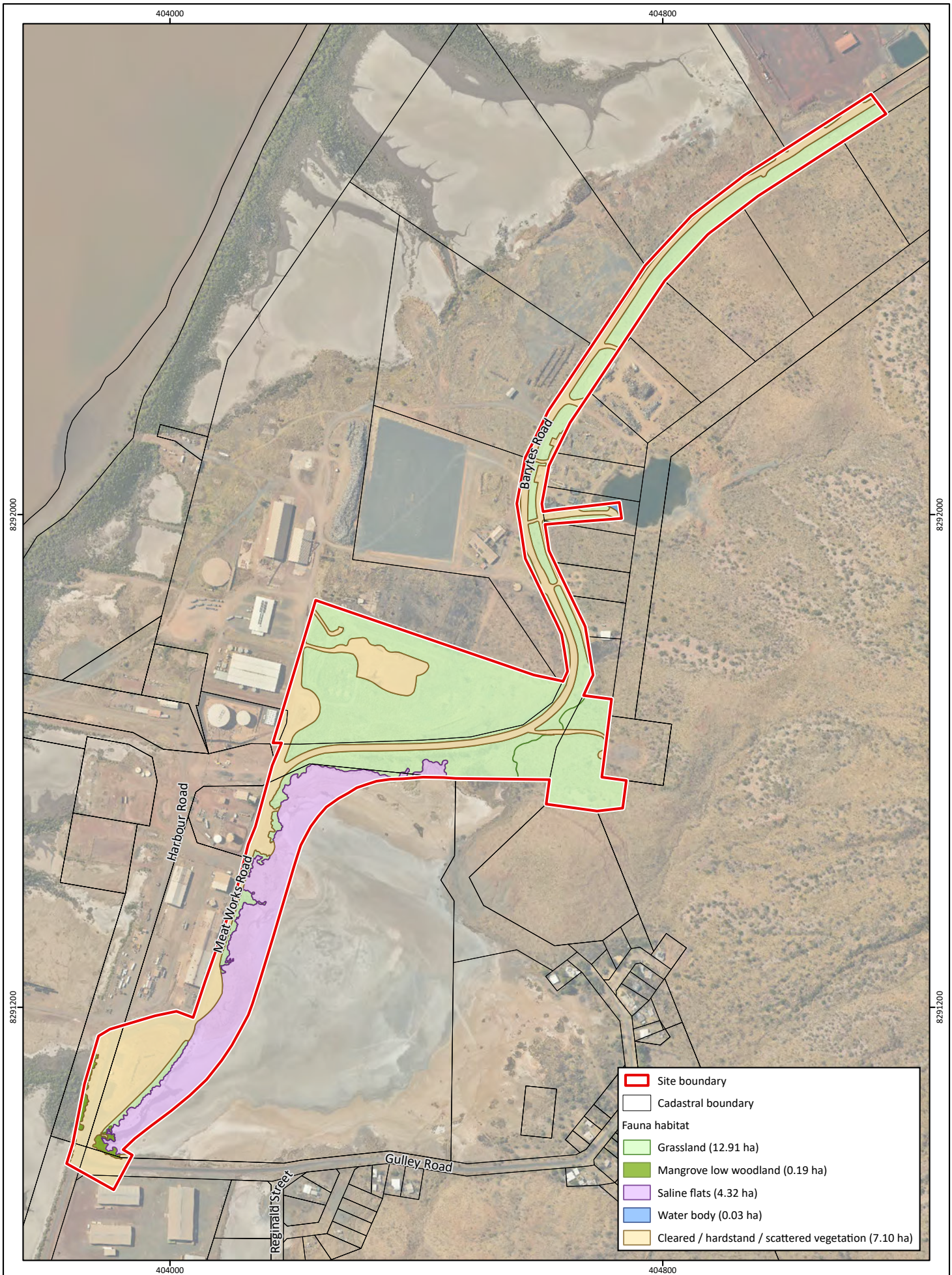


Figure 9: Fauna Habitat

Project: Flora, Vegetation and Fauna Assessment
Barytes Road, Wyndham

Client: Shire of Wyndham-East Kimberley

Plan Number: EP26-017(04)--F07a

Drawn:	WJC
Date:	21/05/2026
Checked:	KLG
Approved:	RAW
Date:	02/07/2026

N

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Metres
Scale: 1:8,000@A4

GDA2020 MGA Zone 52

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Appendix A

Additional Information

Conservation Significant Flora and Vegetation

Threatened and priority flora

Flora species considered rare or under threat warrant special protection under Commonwealth and/or State legislation. At the Commonwealth level, flora species can be listed as 'threatened' pursuant to Schedule 1 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In Western Australia, plant taxa may be classed as 'threatened' under the *Biodiversity Conservation Act 2016* (BC Act) which is enforced by Department of Biodiversity Conservation and Attractions (DBCA). Threatened flora species are listed under sections 19(1) and 26(2) of the BC Act and published in the Biodiversity Conservation (Species) Order 2022. It is an offence to 'take' or disturb threatened flora without Ministerial approval. Section 5(1)1 of the Act defines to take as including "… to gather, pluck, cut, pull up, destroy, dig up, remove, harvest or damage flora by any means" or to cause or permit the same to be done.

Threatened flora are assigned categories under the EPBC Act and BC Act according to their conservation status, as outlined in **Table 1**.

Flora species that may be threatened or near threatened but lack sufficient information to be listed under the BC Act may be added to the DBCA's *Priority Flora List* (DBCA 2018b). Priority flora species are considered during State approval processes. Priority flora are assigned categories as listed in **Table 1**.

Table 1: Definitions of threatened and priority flora species pursuant to the EPBC Act and BC Act and on DBCA's Priority Flora List (DBCA 2023b)

Conservation code	Description
EX†	Threatened Flora – Presumed Extinct Taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such.
T^†	Threatened Flora – Extant Taxa which are declared to be likely to become extinct or is rare, or otherwise in need of special protection.
CR^	Threatened Flora – Critically Endangered Taxa which are considered to be facing an extremely high risk of extinction in the wild.
EN^	Threatened Flora – Endangered Taxa which are considered to be facing a very high risk of extinction in the wild.
VU^	Threatened Flora – Vulnerable Taxa which are considered to be facing a high risk of extinction in the wild.
P1	Priority One – Poorly Known Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat e.g. road verges, urban areas, farmland, active mineral leases etc., or the plants are under threat, e.g. from disease, grazing by feral animals etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	Priority Two – Poorly Known Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but urgently need further survey.
P3	Priority Three – Poorly Known Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but needs further survey.
P4	Priority Four – Rare Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.

^pursuant to the EPBC Act, †pursuant to the BC Act, on DBCA's *Priority Flora List*

Threatened and priority ecological communities

'Threatened ecological communities' (TECs) are ecological communities that are rare or under threat and therefore warrant special protection. Selected TECs are afforded statutory protection at a Commonwealth level under section 181 of the EPBC Act. TECs nominated for listing under the EPBC Act are considered by the Threatened Species Scientific Committee and a final decision is made by the Commonwealth Minister for the Environment. Once listed under the EPBC Act, communities are categorised as either 'critically endangered', 'endangered' or 'vulnerable' as defined in **Table 2**. Any action likely to have a significant impact on a community listed under the EPBC Act requires approval from the Minister for the Environment.

In Western Australia TECs are listed under sections 27(1), 31 and 33 of the BC Act. TECs are determined by the Western Australian Threatened Ecological Communities Scientific Advisory Committee (WATECSAC) and endorsed by the State Minister for the Environment. The WATECSAC is an independent group comprised of representatives from organisations including tertiary institutions, the Western Australian Museum and DBCA. The TECs listed under the BC Act are defined in Schedule 1 of the Biodiversity Conservation (Threatened Ecological Communities) Order 2023. State TECs are also acknowledged through other environmental approval processes such as 'environmental impact assessment' pursuant to Part IV of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

TECs are assigned to one of the categories outlined in **Table 2** according to their level of threat.

Table 2: Categories of threatened ecological communities (DEC 2009; English and Blyth 1997)

Conservation code	Description
PD	Presumably Totally Destroyed An ecological community that has been adequately searched for but for which no representative occurrences have been located.
CE	Critically Endangered An ecological community that has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future.
E	Endangered An ecological community that has been adequately surveyed and is not critically endangered but is facing a very high risk of total destruction in the near future.
V	Vulnerable An ecological community that has been adequately surveyed and is not critically endangered or endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future.

An ecological community with insufficient information available to be considered a TEC or which are rare but not currently threatened may be listed as a 'priority ecological community' (PEC). PECs are categorised based on a variety of criteria, as described in **Table 3**. Listed PECs are published by DBCA (DBCA 2023a).

Table 3: Categories of priority ecological communities (DEC 2013)

Priority code	Description
P1	Priority One: Poorly known ecological communities Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.
P2	Priority Two: Poorly known ecological communities Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.
P3	Priority Three: Poorly known ecological communities (i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: (ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or; (iii) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc. Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.
P4	Priority Four: Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring. (i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands. (ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for a higher threat category. (iii) Ecological communities that have been removed from the list of threatened communities during the past five years.
P5	Priority Five: Conservation Dependent ecological communities Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Reporting

Section 43 of the BC Act requires that an occurrence of a threatened species or threatened ecological community is reported to DBCA where the occurrence has been identified as part of field work completed:

- as part of an assessment under Part IV of the *Environmental Protection Act 1986*; or
- in relation to an application for a clearing permit under the *Environmental Protection Act 1986* section 51E(1)(d).

Penalties apply to individuals and organisations that fail to provide accurate reports of threatened species or communities.

The *Biodiversity Conservation Regulations 2018* (BC Regulations 2018) came into effect on January 1 2019. The BC Regulations include provisions for licencing, charges, penalties and other provisions associated with the BC Act.

Weeds

A number of legislative and policy documents exist in relation to weed management at state and national levels. The *Biosecurity and Agriculture Management Act 2007* (BAM Act) is the principle legislation guiding weed management in Western Australia and lists declared pest species. At a national level, the Australian government has compiled a list of 32 Weeds of National Significance (WoNS) (DoEE 2018), of which many are also listed under the BAM Act.

Declared Pests

Part 2.3.23 of the BAM Act requires a person must not; "*a) keep, breed or cultivate the declared pest; b) keep, breed or cultivate an animal, plant or other thing that is infected or infested with the declared pest; c) release into the environment the declared pest, or an animal, plant or other thing that is infected or infested with the declared pest; or d) intentionally infect or infest, or expose to infection or infestation, a plant, animal or other thing with a declared pest*".

Under the BAM Act, all declared pests are assigned a legal status, as described in **Table 7**. Species assigned to the 'declared pest, prohibited - s12' category are placed in one of three control categories, as described in **Table 8**.

The *Biosecurity and Agriculture Management Regulations 2013* specify keeping categories for species assigned to the 'declared pest - s22(2)' category, which relate to the purposes of which species can be kept, as well as the entities that can keep them. The categories are described in **Table 9**.

The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under the BAM Act (DPIRD 2020).

Table 4: Legal status of declared pest species listed under the BAM Act (DPIRD 2020)

Category	Description
Declared Pest Prohibited - s12	May only be imported and kept subject to permits. Permit conditions applicable to some species may only be appropriate or available to research organisations or similarly secure institutions.
Declared Pest s22(2)	Must satisfy any applicable import requirements when imported, and may be subject to an import permit if they are potential carriers of high-risk organisms. They may also be subject to control and keeping requirements once within Western Australia

Table 5: Control categories of declared pest species listed under the BAM Act (DPIRD 2020)

Category	Description
C1	Exclusion Not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.
C2	Eradication Present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.
C3	Management Established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

Table 6: Keeping categories of declared pest species listed under the BAM Act (DPIRD 2020)

Category	Description
Prohibited	Can only be kept under a permit for public display and education purposes, and/or genuine scientific research, by entities approved by the state authority.
Exempt	No permit or conditions are required for keeping.
Restricted	Organisms which, relative to other species, have a low risk of becoming a problem for the environment, primary industry or public safety and can be kept under a permit by private individuals.

Conservation Significant Fauna

Threatened and priority fauna

Fauna species considered rare or under threat warrant special protection under Commonwealth and/or State legislation. At the Commonwealth level, fauna species can be listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as 'threatened', 'migratory' or 'marine' as described in **Table 1**.

Migratory species comprise birds recognised under international treaties including:

- *Japan Australia Migratory Bird Agreement 1981* (JAMBA)
- *China Australia Migratory Bird Agreement 1998* (CAMBA)
- *Republic of Korea-Australia Migratory Bird Agreement 2007* (ROKAMBA)
- *Bonn Convention 1979* (The Convention on the Conservation of Migratory Species of Wild Animals).

Fauna species listed as threatened and migratory are protected in Australia as 'matters of national environmental significance' (MNES) under the EPBC Act.

Table 7: Definitions of conservation significant fauna species pursuant to the EPBC Act

Conservation Code	Category
X	Threatened Fauna –Extinct There is no reasonable doubt that the last member of the species has died.
EW#	Threatened Fauna –Extinct in the Wild Taxa which are known only to survive in cultivation, captivity or as a naturalised population outside its past range, or taxa which have not been recorded in its known and/or expected habitat despite appropriate exhaustive surveys.
CR#	Threatened Fauna – Critically Endangered Taxa which are considered to be facing an extremely high risk of extinction in the wild.
EN#	Threatened Fauna – Endangered Taxa which are considered to be facing a very high risk of extinction in the wild.
VU#	Threatened Fauna – Vulnerable Taxa which are considered to be facing a high risk of extinction in the wild.
Migratory#	Migratory Fauna All migratory species that are: (i) native species; and (ii) from time to time included in the appendices to the Bonn Convention; and (b) all migratory species from time to time included in annexes established under JAMBA, CAMBA and ROKAMBA; and All native species from time to time identified in a list established under, or an instrument made under, an international agreement approved by the Minister.
Ma	Marine Fauna Species in the list established under s248 of the EPBC Act

#matters of national environmental significance (MNES) under the EPBC Act

In Western Australia, fauna taxa may be classed as 'threatened', 'extinct', or 'specially protected' under the *Biodiversity Conservation Act 2016* (BC Act), which is enforced by Department of Biodiversity Conservation and Attractions (DBCA) (DBCA 2019). The definitions of these categories are provided in **Table 2**.

Table 8: Definitions of specially protected fauna schedules under the BC Act (DBCA 2019)

Category	Conservation Code	Definition
Threatened	CR	Critically endangered Threatened species considered to be facing an extremely high risk of extinction in the wild in the immediate future.
	EN	Endangered Threatened species considered to be facing a very high risk of extinction in the wild in the near future.
	VU	Vulnerable Threatened species considered to be facing a high risk of extinction in the wild in the medium-term future.
Extinct	EX	Extinct Species where there is no reasonable doubt that the last member of the species has died.
	EW	Extinct in the wild Species that is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form. Note that no species are currently listed as EW.
Specially protected	MI	Migratory species Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth Includes birds that subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
	CD	Species of special conservation interest (conservation dependent fauna) Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened.
	OS	Other specially protected species Fauna otherwise in need of special protection to ensure their conservation.

Fauna species that may be threatened or near threatened but lack sufficient information to be legislatively listed may be added to the DBCA's *Priority Fauna List* (DBCA 2018a). Species listed under priorities 1-3 comprise possible threatened species that do not meet survey criteria or are otherwise data deficient. Species listed under priority 4 are those that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons (DBCA 2019).

Priority fauna species are considered during State approval processes. Priority fauna categories and definitions are listed in **Table 3** (DBCA 2019).

Table 9: Definitions of priority fauna categories on DBCA's Priority Fauna List (DBCA 2019)

Conservation Code	Category
P1	Priority 1 – Poorly known Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
P2	Priority 2 – Poorly known Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
P3	Priority 3 – Poorly known Species that are known from several locations and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
P4	(a) Priority 4 – Rare species Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. (b) Priority 4 – Near Threatened Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. (c) Priority 4 – Other Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Pest fauna

A number of legislative and policy documents exist in relation to pest fauna management at state and national levels. The *Biosecurity and Agriculture Management Act 2007* (BAM Act) is the principle legislation guiding pest fauna management in Western Australia and lists declared pest species.

Declared Pests

Part 2.3.23 of the BAM Act requires a person must not "*a) keep, breed or cultivate the declared pest; b) keep, breed or cultivate an animal, plant or other thing that is infected or infested with the declared pest; c) release into the environment the declared pest, or an animal, plant or other thing that is infected or infested with the declared pest; or d) intentionally infect or infest, or expose to infection or infestation, a plant, animal or other thing with a declared pest*".

Under the BAM Act, all declared pests are assigned a legal status, as described in **Table 4**. Species assigned to the 'declared pest, prohibited - s12' category are placed in one of three control categories, as described in **Table 5**.

The *Biosecurity and Agriculture Management Regulations 2013* specify keeping categories for species assigned to the 'declared pest - s22(2)' category, which relate to the purposes of which species can be kept, as well as the entities that can keep them. The categories are described in **Table 6**.

The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under the BAM Act (DAFWA 2016).

Table 10: Legal status of declared pest species listed under the BAM Act (DAFWA 2016)

Category	Description
Declared Pest Prohibited - s12	May only be imported and kept subject to permits. Permit conditions applicable to some species may only be appropriate or available to research organisations or similarly secure institutions.
Declared Pest s22(2)	Must satisfy any applicable import requirements when imported and may be subject to an import permit if they are potential carriers of high-risk organisms. They may also be subject to control and keeping requirements once within Western Australia

Table 11: Control categories of declared pest species listed under the BAM Act (DAFWA 2016)

Category	Description
C1	Exclusion Not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.
C2	Eradication Present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.
C3	Management Established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

Table 12: Keeping categories of declared pest species listed under the BAM Act (DAFWA 2016)

Category	Description
Prohibited	Can only be kept under a permit for public display and education purposes, and/or genuine scientific research, by entities approved by the state authority.
Exempt	No permit or conditions are required for keeping.
Restricted	Organisms which, relative to other species, have a low risk of becoming a problem for the environment, primary industry or public safety and can be kept under a permit by private individuals.

Literature

The main literature used for identifying fauna and fauna habitats is listed in **Table 8** below.

Table 13: Standard literature used for identifying fauna species and habitats.

Conservation Code	Category
Birds	Johnstone and Storr (1998b), Johnstone and Storr (1998a), Pizzey and Knight (2012), Slater *et al.* (2003)
Mammals	Menkhorst and Knight (2011), Triggs (2003)
Amphibia	Tyler and Doughty (2009), Bush *et al.* (2002)
Reptiles	Bush *et al.* (2002), Wilson and Swan (2021)

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Appendix B

Conservation Significant Flora Species and Likelihood of Occurrence Assessment

Species name	Level of		Life strategy	Habitat	Flowering period	Likelihood of occurrence
	WA	EPBC Act				
Eucalyptus ceracea	VU	VU	P	Skeletal sandy soils. Sandstone ridges & scree slopes.	Jun-Nov	Does not occur (absent)
Lazarum sp. Kununurra (A.N. Start ANS 1467)	EN	-	PG	Black soil. Crabholes.	Dec-Jan	Does not occur (absent)
Acacia leptocarpa	P1	-	P	Black soils. Seasonally inundated plains.	May	Does not occur (absent)
Acacia seclusa	P1	-	P	Riparian areas.	Aug	Does not occur (absent)
Acacia sp. L Kimberley Flora (T.G. Hartley 14569)	P1	-	P	Quartzitic sandstone. Rocky slopes.	Unknown	Does not occur (absent)
Calycopeplus collinus	P1	-	P	Limestone, sandstone. Gorges, ridges.	Mar	Does not occur (absent)
Croton arnhemicus	P1	-	P	Sandstone. Gullies.	Unknown	Does not occur (absent)
Cucumis sp. Bastion Range (A.A. Mitchell et al. AAM 10710)	P1	-	A	Red brown sandy clay. Sandstone screes. Rocky areas.	Apr-May	Does not occur (absent)
Cyperus digitatus	P1	-	P	Water's edge.	Unknown	Unlikely to occur
Dicarpidium sp. B Kimberley Flora (G.J. Keighery 10138)	P1	-	P	Sand over sandstone.	Jun	Does not occur (absent)
Echinochloa kimberleyensis	P1	-	A	Black soils. Swamps.	Apr-Jul	Does not occur (absent)
Eragrostis rigidiuscula	P1	-	P	Creek banks.	Jan-Mar	Unlikely to occur
Euploca alcyonium	P1	-	P	Unknown.	Unknown	Unlikely to occur
Euploca cupressina	P1	-	P	Sandstone ridges.	Feb-May	Does not occur (absent)
Euploca foveolata	P1	-	P	Sandy loam to silty clay.	Unknown	Unlikely to occur
Euploca tachyglossoides	P1	-	P	Unknown.	Unknown	Unlikely to occur
Euploca uniflora	P1	-	P	Sandstone, quartzite. Rocky slopes.	Mar-Apr	Unlikely to occur

Species name	Level of		Life strategy	Habitat	Flowering period	Likelihood of occurrence
	WA	EPBC Act				
Fimbristylis subaristata	P1	-	A	Damp sites.	Feb-May	Does not occur (absent)
Gmelina australis	P1	-	P	Swamps.	Unknown	Does not occur (absent)
Goodenia brachypoda	P1	-	P	Red sandy loam.	Sep	Unlikely to occur
Goodenia durackiana	P1	-	A	Black clay. Grassland.	Mar-May	Unlikely to occur
Goodenia heterotricha	P1	-	A/P	Sandy clay. Seasonally wet areas.	May-Jun	Potential to occur
Goodenia janamba	P1	-	A	Gorges.	Jun	Does not occur (absent)
Goodenia malvina	P1	-	A	Cracking black clay. Seasonally wet areas.	Jan-May	Does not occur (absent)
Grona flagellaris	P1	-	A	Cracking black clay. Undulating basalt country.	Unknown	Does not occur (absent)
Hibiscus panduriformis	P1	-	P	Black soils. Cracking clay. Swamps.	Jun	Does not occur (absent)
Hibiscus sp. Kununurra (K.F. Kenneally 1940)	P1	-	P	Cracking clay.	Mar-Aug	Does not occur (absent)
Hullsia argillicola	P1	-	P	In seasonally inundated regions eg. swamps, cracking clay plains, paddocks.	Mar	Does not occur (absent)
Ipomoea argillicola	P1	-	P	Black to grey clay. Wet areas.	Jan-Apr	Does not occur (absent)
Iseilema trichopus	P1	-	A	Sandy loam.	Mar	Potential to occur
Jacquemontia sp. Keep River (J.L. Egan 5015)	P1	-	P	Sandy loam to clay over sandstone. Ridges. Open woodlands.	Feb-Mar, Sep	Does not occur (absent)
Lazarum sp. Middle Creek (M.D. Barrett MDB 3246)	P1	-	PG	Yellow to brown to grey clay. Flats.	Jan	Unlikely to occur
Lepturus copeanus	P1	-	P	Soil pockets in cracks in dolomite. Hills.	May	Does not occur (absent)

Species name	Level of		Life strategy	Habitat	Flowering period	Likelihood of occurrence
	WA	EPBC Act				
Lepturus xerophilus	P1	-	A	Limestone.	Mar	Does not occur (absent)
Microsorum grossum	P1	-	P	Wet areas.	Unknown	Does not occur (absent)
Polycarpaea umbrosa	P1	-	A/P	Sandstone crevices.	Jun-Aug	Does not occur (absent)
Polygala crassitesta	P1	-	A/P	Dark brown clay. Plains.	Feb	Potential to occur
Scaevola sp. Cockburn Range (G.W. Carr 3369 & A.C. Beauglehole 47147)	P1	-	P	Sandstone gorges. Creeklines.	May	Does not occur (absent)
Solanum pugiunculiferum	P1	-	A	Heavy soils. Margins of seasonal wetlands or lagoons.	Jul-Aug	Potential to occur
Sphaeranthus africanus	P1	-	A	Grassy flats adjacent to tidal zone.	Unknown	Potential to occur
Sphenoclea zeylanica	P1	-	A	Grey clay to black peaty clay. Monsoon thickets, mound spring.	Sep	Does not occur (absent)
Stylidium multiscapum	P1	-	A	Sandy soils. Often swampy areas.	Apr, Jun-Aug	Does not occur (absent)
Tephrosia cardiophylla	P1	-	P	Sandstone slopes.	Feb, May	Does not occur (absent)
Trachymene oleracea subsp. sedimentum	P1	-	A	Sandstone rocks.	May	Unlikely to occur
Triodia cunninghamii	P1	-	P	Low sandstone hills near tidal flats of estuary.	Mar, Sep	Unlikely to occur
Triodia fitzgeraldii	P1	-	P	Rocky skeletal soils. Sandstone hills.	Oct	Unlikely to occur
Triodia racemigera	P1	-	P	Sandstone. Steep rocky slopes, crevices, cliffs & ridges.	Dec, Feb-May	Does not occur (absent)
Triodia triticoides	P1	-	P	Rocky sandstone & limestone hillslopes.	Jan-Mar, Jun-Jul	Unlikely to occur
Utricularia stellaris	P1	-	P	Swamps, lagoons.	Jun-Jul	Does not occur (absent)
Utricularia tridactyla	P1	-	A	Moist sandy soils. Seepage areas, flats.	Mar	Potential to occur

Species name	Level of		Life strategy	Habitat	Flowering period	Likelihood of occurrence
	WA	EPBC Act				
Utricularia tubulata	P1	-	P	Ephermeral swamps.	Feb-Mar, Jun	Does not occur (absent)
Whiteochloa capillipes	P1	-	A/P	Sand. Rocky sandstone slopes.	Feb-Jun	Does not occur (absent)
Zornia areolata	P1	-	P	Plains.	Unknown	Does not occur (absent)
Cayratia cardiophylla	P2	-	P	Limestone. Seepage areas, amongst rocks.	Aug-Dec	Does not occur (absent)
Diospyros littorea	P2	-	P	Gallery forest, near campsites.	Unknown	Does not occur (absent)
Dolichandrone filiformis	P2	-	P	Sandstone, sandy soils.	Dec	Recorded
Eucalyptus ordiana	P2	-	P	Skeletal soils over sandstone or quartzite. Steep rocky outcrops.	Apr-May	Unlikely to occur
Fimbristylis laxiglumis	P2	-	A	Black clay.	Apr	Does not occur (absent)
Gomphrena longistyla	P2	-	A	Clay. Edges of creeklines. Below sandstone slopes.	Jan-Feb, Jun	Potential to occur
Grevillea latifolia	P2	-	P	Sandy soils on sandstone, laterite or quartzite.	Mar-Sep, Dec	Does not occur (absent)
Minuria macrorhiza	P2	-	P	Red clay or loam, laterite, bauxite. Sandstone gullies, exposed sheets basalt, among tumbled boulders, in grasslands.	Jan, May-Oct	Does not occur (absent)
Neptunia valida	P2	-	P	Cracking clay soils. Adjacent to suprtidal zones.	Apr-May	Does not occur (absent)
Nymphaea immutabilis	P2	-	A/P	Permanent or ephemeral waterholes.	Mar-Nov	Does not occur (absent)
Platysace saxatilis	P2	-	P	Sand, sandstone. Valleys and hills, in crevices in the rock face, on sides of gorges, on cliffsides.	Mar-May, Jul, Nov	Does not occur (absent)
Stylidium incognitum	P2	-	A	Sand. Flats.	Jun-Aug	Potential to occur

Species name	Level of		Life strategy	Habitat	Flowering period	Likelihood of occurrence
	WA	EPBC Act				
Tephrosia sp. Kununurra (T. Handasyde TH00 250)	P2	-	P	Sand. Ridges. Creeklines.	Feb-Jul	Unlikely to occur
Utricularia aurea	P2	-	P	River edges.	Jan-Mar, May, Aug, Nov-Dec	Does not occur (absent)
Utricularia baliboongarnang	P2	-	P	Ephermeral swamps.	Apr	Does not occur (absent)
Acacia jasperensis	P3	-	P	Sandstone outcrops.	May	Does not occur (absent)
Acacia richardsii	P3	-	P	Sandstone. Hills, creek beds, rocky areas.	Mar-Aug	Does not occur (absent)
Acacia sp. Cockburn Range (R. Pullen 10.763)	P3	-	P	Red earth. Erosion surface of plain above river, rock outcrops, shrub grassland.	Apr	Does not occur (absent)
Adenostemma lavenia var. lanceolatum	P3	-	A	Black soil. Swamps and creek edges.	Jan-Jun	Does not occur (absent)
Brachychiton incanus	P3	-	P	Sandy soils over sandstone or quartzite. Rocky slopes, scarps & ridges.	Jul-Sep	Recorded
Brachychiton tuberculatus	P3	-	P	Red or yellow sand. Undulating plains.	Apr, Aug-Nov	Does not occur (absent)
Dendrophthoe odontocalyx	P3	-	P	On Melaleuca.	Jun-Aug	Does not occur (absent)
Euphorbia stevenii	P3	-	P	Clay, sandy soils.	May-Jun	Does not occur (absent)
Fuirena incrassata	P3	-	A	Sand, sandy clay. Swamps, creek beds, claypans, semi-saline lakes.	May-Aug	Unlikely to occur
Gardenia sericea	P3	-	P	Sandstone.	Jul	Does not occur (absent)
Goodenia byrnesii	P3	-	A	Sand. Edge of creeks.	Jan-Feb	Recorded
Isotropis browniae	P3	-	P	Sand. Sandstone.	Apr-Jul	Unlikely to occur
Lophostemon grandiflorus subsp. grandiflorus	P3	-	P	Damp habitats (swamps, seepages).	Nov-Apr	Does not occur (absent)

Species name	Level of		Life strategy	Habitat	Flowering period	Likelihood of occurrence
	WA	EPBC Act				
Pityrodia obliqua	P3	-	P	Sandstone or quartzite. Rocky faces in mountain ranges.	May-Jul	Does not occur (absent)
Stylidium prophyllum	P3	-	A	Sandy, black silty or clayey sandy soils, loam. Seasonally wet floodway depressions & seepage areas.	May-Jun	Does not occur (absent)
Synostemon hubbardii	P3	-	P	Red to yellow sand, black soils. Flats.	Jan-Feb	Does not occur (absent)
Synostemon rigidulus	P3	-	P	Sandstone slopes and ridges.	Mar-Apr	Does not occur (absent)
Tephrosia sp. Mistake Creek (A.C. Beauglehole 54424)	P3	-	P	Sand, gravel. Sandstone. Watercourses.	May-Nov	Unlikely to occur
Tephrosia valleculata	P3	-	P	Sandy, often shallow, soil around sandstone. Rock outcrops.	Apr-Sep	Unlikely to occur
Utricularia muelleri	P3	-	P	Seasonal swamps.	May-Jun	Does not occur (absent)
Ficus lilliputiana forma lilliputiana	P4	-	P	Sandstone. Grows only in rock crevices.	Apr-Oct	Unlikely to occur
Ficus lilliputiana forma pilosa	P4	-	P	Sandstone. Rock crevices by water, escarpments, ledges, outcrops.	Apr-Oct	Unlikely to occur
Ipomoea gracilis	P4	-	P	Black cracking clay or black sand. Irrigated areas.	Mar-May, Sep	Does not occur (absent)
Paspalidium distans	P4	-	P	Loam. River banks.	Mar-Sep	Does not occur (absent)
Note: EN=endangered, VU=vulnerable, P1=Priority 1, P2=Priority 2, P3=Priority 3, P4=Priority 4,						

Appendix C

Conservation Significant Fauna and Likelihood of Occurrence Assessment

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Birds						
Calidris ferruginea	Curlew sandpiper	CR	CR (MI)	Mainly shallows of estuaries and near-coastal saltlakes (including saltwork ponds) and drying near-coastal freshwater lakes and swamps. Also beaches and near-coastal sewage ponds (Johnstone & Storr 1988).	9.5 km SE (Recorded 2001)	Nil (does not occur) (unsuitable habitat)
Limosa lapponica menzbieri	Bar-tailed godwit	CR (MI)	CR (MI)	Mainly coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. Has also been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (Higgins and Davies 1996).	-	Nil (does not occur) (unreliable record)
Numenius madagascariensis	Eastern curlew	CR	CR (MI)	Mainly tidal mudflats; also reef flats, sandy beaches and rarely near-coastal lakes (including saltwork ponds) (Johnstone and Storr 1998).	535 m W (Recorded 2013)	Potential to occur (suitable habitat and recent record nearby)
Botaurus poiciloptilus	Australasian bittern	EN	EN	In or over water, in tall reedbeds, sedges, rushes, cumbungi, lignum. Also occurs in ricefields, drains in tussocky paddocks and occasionally in saltmarshes and brackish wetlands (TSSC 2019).	19 km SE (Recorded 2014)	Unlikely to occur (potential to utilise habitat occassionally)
Calidris canutus	Red knot	EN	EN (MI)	Mud and sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Chloebia gouldiae	Gouldian finch	P4	EN	Species occurs in savannah woodlands on stony hills with eucalypts over dense, tall (2 metre) native grasses. Also grassy flats, trees near water, vegetation on watercourses and scrublands over spinifex (Pizzey & Knight 2012).	1.2 km SE (Recorded 2014)	Potential to occur (suitable habitat and recent record nearby)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Limosa limosa	Black-tailed godwit	EN MI	EN (MI)	Tidal mudflats, estuaries, sewage ponds, shallow river margins, brackish or saline inland lakes, flooded pastures, airfields (Pizzey & Knight 2012).	16.3 km SE (Recorded 2007)	Potential to occur (suitable habitat)
Malurus coronatus coronatus	Purple-crowned fairy-wren	EN	EN	Pandanus/paperbark thickets, with tall cane grass and other dense low cover, mostly fringing rivers, creeks, lakes; rarely mangroves (Pizzey and Knight 2012).	13.4 km SE (Recorded 2018)	Nil (does not occur) (unsuitable habitat)
Pezoporus occidentalis	Night parrot	CR	EN	Treeless or sparsely wooded spinifex (Triodia spp.) near water (including artesian bores) (Johnstone & Storr 1998).	-	Nil (does not occur) (unreliable record)
Phaethon rubricauda westralis	Red-tailed tropicbird	P4 (MI)	EN (MI)	Spend most of their lives at sea and rarely venture near land. This bird is normally found in tropical and subtropical seas around northern Australia. Though rarely seen in colder areas, a few pairs breed on Sugarloaf Rock, south of Cape Naturaliste (DPAW 2017b). Are known to breed on Rottnest Island (DCCEEW 2023).	-	Nil (does not occur) (unreliable record)
Rostratula australis	Australian painted snipe	EN	EN	Mainly shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans (Marchant and Higgins 1993).	18.9 km SE (Recorded 2011)	Potential to occur (suitable habitat)
Tringa nebularia	Common greenshank	EN (MI)	EN (MI)	Mudflats, estuaries, saltmarshes, margins of lakes, wetlands, claypans (fresh and saline), commercial saltfields, sewage ponds (Pizzey & Knight 2012).	400 m W (Recorded 2000)	Potential to occur (suitable habitat and recent record nearby)
Arenaria interpres	Ruddy turnstone	VU (MI)	VU (MI)	Tidal mud and reef flats, sheltered rocky coasts, stony and seaweedy beaches and sandpits, dry coral ridges (Abrolhos) and pebbly shores of near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	-	Nil (does not occur) (unreliable record)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Calidris acuminata	Sharp-tailed sandpiper	VU (MI)	VU (MI)	Occurs in tidal mudflats, saltmarshes and mangroves, as well as, shallow fresh, brackish or saline inland wetlands. It is also known from floodwaters, irrigated pastures and crops, sewage ponds, saltfields (Pizzey & Knight 2012).	3.7 km SE (Recorded 1999)	Potential to occur (suitable habitat and recent record nearby)
Charadrius leschenaultii	Great sand plover	VU	VU (MI)	Wide sandy or shelly beaches, sandpits, tidal mudflats, reefs, sand cays, mangroves, saltmarsh, dune wilderness, bare paddocks, seldom far inland (Pizzey & Knight 2012).	9.7 km SE (Recorded 2015)	Potential to occur (suitable habitat)
Erythrotriorchis radiatus	Red goshawk	VU	VU	Open forests and woodlands, often near watercourses and wetlands or on the fringes of rainforests (Pizzey & Knight 2012).	29.3 km E (Recorded 2005)	Potential to occur (suitable habitat)
Falco hypoleucos	Grey falcon	VU	VU	Species occurs in arid and semi-arid Australia, where it inhabits timbered lowland plains. In particular Acacia shrublands and that are crossed by tree-lined water courses. Species has also been observed hunting in treeless areas and frequenting tussock grassland and open woodlands (TSSC 2020).	42.6 km E (Recorded 1977)	Likely to occur (suitable habitat)
Falcunculus frontatus whitei	Crested shrike-tit (northern), northern shriketit	P3	VU	Occurs in the Kimberley region of Western Asutralia. Occurs in woodlands, mainly those dominated by Eucalyptus miniata, E. tetrodonta or E. bleeseri. Forages for invertebrates in foliage, brances and the trunk and bark across a range of eucalypt species and other tree species. Lays clutches of eggs in cupped nests built in a fork or placed high in tree foliage.	35.7 km SE (Recorded 1955)	Nil (does not occur) (unsuitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Gallinago hardwickii	Latham's snipe	VU (MI)	VU (MI)	Soft, wet ground or shallow water with tussocks and other green or dead growth, wet parts of paddocks, seepage below dams, irrigated areas, scrub or open woodland from sea level to alpine bogs over 2000 m, samphire on saltmarshes and mangrove fringes. Rare visitor to Western Australia (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Geophaps smithii blaauwi	Partridge pigeon (western)	VU	VU	Low woodlands, tall shrublands and tall open shrublands that support relatively short, open grasses. The subspecies has been recorded from Yampi Peninsula north to Napier Broome Bay and inland to the lower Isdell River, middle Charnley River, Wulumara Creek, Mitchell Plateau and lower Drysdale River.	42 km SW (Recorded 2006)	Nil (does not occur) (unsuitable habitat)
Geophaps smithii smithii	Partridge pigeon (eastern)	P4	VU	Recorded in sub-coastal Northern Territory, from Yinberrie Hills (about 50 km north of Katherine) in the south and Litchfield National Park in the west to western Arnhem Land in the east, with a separate subpopulation on Melville and Bathurst Islands in the Tiwi Island group and other scattered populations across the top of northern Australia.	-	Nil (does not occur) (unreliable record)
Limnodromus semipalmatus	Asian dowitcher	VU (MI)	VU (MI, MA)	Tidal mudflats, beaches, commercial saltfields and sewage ponds (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Limosa lapponica baueri	Bar-tailed godwit	VU (MI)	VU (MI)	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near-coastal saltlakes (including saltwork and sewage ponds) (Johnstone and Storr 1998).	-	Nil (does not occur) (unreliable record)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Pluvialis squatarola	Grey Plover	VU (MI)	VU (MI)	Mudflats, saltmarsh, tidal reefs and estuaries, rarely inland (Pizzey and Knight 2012).	39.4 km SW (Recorded 2007)	Nil (does not occur) (unsuitable habitat)
Saccolaimus saccolaimus nudicluniatus	Bare-rumped sheath-tailed bat	P3	VU	Mostly open sclerophyll forest. Species only known from two populations, one located in coastal Queensland between iron Range and Bowen and the other located in Arnhem Land in the Northern Territory Menkhorst & Knight 2011).	-	Nil (does not occur) (unreliable record)
Tyto novaehollandiae kimberli	Masked owl	P1	VU	Forests, open woodlands, farmlands with large trees. E.g. river red gums, adjacent cleared country, timbered watercourses, paperbark woodlands and caves (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Xenus cinereus	Terek sandpiper	VU (MI)	VU (MI)	Tidal mudflats, estuaries; shores and reefs of islands; coastal swamps, commercial saltfields (Pizzey & Knight 2012).	940 m SW (Recorded 2001)	Unlikely to occur
Ninox connivens connivens	Barking owl (southwest subpop.)	P3	-	Open forests, woodlands, dense scrubs, foothills, river red gums, and other large trees near watercourses penetrating otherwise open country. Also Melaleuca woodlands, mangroves, rainforests and deciduous vine scrubs (Johnstone and Storr 1998; Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Botaurus dubius	Australian little bittern	P4	-	Dense vegetation surrounding/within freshwater pools, swamps and lagoons, well screened with trees. Shelters in dense beds of Typha spp., Baumea spp. and tall rushes in freshwater swamps around lakes and along rivers (Johnstone and Storr 1998).	14 km S (Recorded 1980)	Potential to occur (suitable habitat)
Elanus scriptus	Letter-winged kite	P4	-	Open to sparsely wooded country and grassland near tree-lined streams or watercourses (Johnstone and Storr 1998).	22.6 km SE (Recorded 2013)	Likely to occur (suitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Phaethon rubricauda	red-tailed tropicbird	P4 (MI)	MI	Breeding occurs seasonally in loose colonies on small, remote oceanic islands mostly on inaccessible cliffs. No regular migrations are known; adults can be found in the vicinity of colonies all year round (Schreiber & Schreiber 2020).	-	Nil (does not occur) (unreliable record)
Tringa brevipes	Grey-tailed tattler	P4 (MI)	MI	Tidal mud and reef flats, sheltered rocky coasts, stony and seaweedy beaches and sandpits, dry coral ridges (Abrolhos) and pebbly shores of near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	540 m W (Recorded 2013)	Nil (does not occur) (unsuitable habitat)
Acrocephalus orientalis	Oriental reed-warbler	MI	MI	Emergent aquatic vegetation along waterways and water bodies. Occasional non- breeding visitor to northern Australia.	-	Nil (does not occur) (unreliable record)
Anous stolidus	Common noddy	MI	MI	Tropical and subtropical seas, cayes, reefs, buoys and piles (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Apus pacificus	Pacific swift	MI	MI	Aerial, migratory species that is most often seen over inland plains and sometimes above open areas, foothills or in coastal areas. Sometimes occurs over settled areas, including towns, urban areas and cities (Pizzey & Knight 2012).	12 km SE (Recorded 2014)	Likely to occur (suitable habitat)
Calidris alba	Sanderling	MI	MI	Mainly steeply shelving sandy beaches exposed to ocean swell. Also sandy inlets, estuarine sandbanks and near-coastal saltlakes (including saltwork ponds) (Johnstone & Storr 1998).	-	Nil (does not occur) (unreliable record)
Calidris falcinellus	Broad-billed sandpiper	MI	MI, MA	Tidal mudflats, reefs, saltmarsh, freshwater wetlands, sewage ponds, favours muddy ooze (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Calidris melanotos	Pectoral sandpiper	MI	MI	Mainly fresh waters (swamps, lagoons, river pools, irrigation channels and sewage ponds); also samphire flats around estuaries and saltlakes (Johnstone & Storr 1998).	-	Nil (does not occur) (unreliable record)
Calidris pugnax	Ruff	MI	MI	Fresh, brackish and saline wetlands; tidal mudflats, saltfields, sewage ponds (Pizzey & Knight 2012).	18.8 km SE (Recorded 1998)	Potential to occur (suitable habitat)
Calidris ruficollis	Red-necked stint	MI	MI	Tidal mudflats, saltmarshes, sandy or shelly beaches, saline and freshwater wetlands (coastal and inland), saltfields, sewage ponds (Pizzey and Knight 2012).	9.7 km SE (Recorded 2015)	Potential to occur (suitable habitat)
Calidris subminuta	Long-toed stint	MI	MI	Mainly freshwater swamps (especially when drying and where vegetation is short), river pools, lagoons and claypans; also brackish pools, sewage ponds and samphire flats around estuaries and saltlakes (Johnstone & Storr 1988).	16.9 km SE (Recorded 2000)	Potential to occur (suitable habitat)
Calonectris leucomelas	Streaked shearwater	MI	MI	Regular non-breeding visitor to western Australian north of Geraldton (Pizzey & Knight 2012).	-	Nil (does not occur) (unsuitable habitat)
Cecropis daurica	Red-rumped swallow	MI	MI, MA	Range of habitat, including open country, overhead wires, swamps, grassland and coasts (Pizzey & Knight 2012).	-	Nil (does not occur) (unsuitable habitat)
Charadrius veredus	Oriental plover	MI	MI	Species occurs in a variety of habitats, including open plains, bare or rolling country often far from water, ploughed land, muddy or sandy wastes near inland swamps or tidal mudflats, bare claypans, margins of coastal marshes, grassy airfields, sportsfests and lawns (Pizzey & Knight 2012).	16.9 km SE (Recorded 2000)	Potential to occur (suitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Chlidonias leucopterus	White-winged black tern	MI	MI	Vegetated and open wetlands, brackish and saline lakes, saltfields, irrigated lands, sewage ponds and occasionally offshore (Pizzey & Knight 2012).	1.2 km S (Recorded 1983)	Potential to occur (suitable habitat and recent record nearby)
Cuculus optatus	Oriental cuckoo	MI	MI	Range of habitats, including monsoon forests, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves and islands (Pizzey & Knight 2012).	42 km E (Recorded 1981)	Potential to occur (suitable habitat)
Fregata ariel	Lesser frigatebird	MI	MI, MA	Tropical and subtropical seas,coastlines and islands (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Fregata minor	Greater frigatebird	MI	MI, MA	Tropical and subtropical seas,coastlines and islands (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Gallinago megala	Swinhoe's snipe	MI	MI	Wet, grassy ground; edges of reedy swamps (Pizzey & Knight 2012).	11 km SE (Recorded 1984)	Unlikely to occur (unsuitable habitat)
Gelochelidon nilotica	Gull-billed tern	MI	MI	Beaches, mudflats; fresh, brackish wetlands, including far inland; grasslands, crops, ploughed fields, airfields (Pizzey & Knight 2012).	1.1 km S (Recorded 2001)	Potential to occur (suitable habitat and recent record nearby)
Glareola maldivarum	Oriental pratincole	MI	MI	Plains, shallow wet and dry edges of open bare wetlands, tidal mudflats and beaches (Pizzey & Knight 2012).	18.3 km SE (Recorded 2000)	Likely to occur (suitable habitat)
Hirundo rustica	Barn swallow	MI	MI, MA	Range of habitat, including open country, agricultural land, railyards, towns and overhead wires, especially near water (Pizzey & Knight 2012).	9.7 km SE (Recorded 2001)	Likely to occur (suitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Hydroprogne caspia	Caspian tern	MI	MI	Mainly sheltered areas, estuaries (when not laden with silt) and tidal creeks; occasionally near-coastal saltlakes (including saltwork ponds) and brackish pools in lower courses of rivers; rarely fresh waters (DCCEEW 2023).	9.1 km SE (Recorded 2001)	Nil (does not occur) (unsuitable habitat)
Limosa lapponica	Bar-tailed godwit	MI	MI	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near-coastal saltlakes (including saltwork and sewage ponds) (Johnstone and Storr 1998).	16.9 km SE (Recorded 2000)	Potential to occur (suitable habitat)
Motacilla cinerea	Grey wagtail	MI	MI	In Australia mostly near running water in disused quarries, sandy and rocky streams in escarpments and rainforests, sewage ponds, ploughed fields and airfields (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Motacilla flava	Yellow Wagtail	MI	MI, MA	Short grass and bare ground, swamp margins, sewage ponds, saltmarshes, grassy fields and ploughed land (Pizzey & Knight 2011).	-	Nil (does not occur) (unreliable record)
Numenius minutus	Little curlew	MI	MI	Dry grasslands, floodplains, margins of drying swamps; tidal mudflats, airfields, playing fields, crops, commercial saltfields, sewage ponds (Pizzey & Knight 2012).	3.2 km SE (Recorded 2010)	Potential to occur (suitable habitat)
Numenius phaeopus	Whimbrel	MI	MI	Estuaries, mangroves, tidal flats, coral cays, exposed reefs, flooded paddocks, sewage ponds, bare grasslands, sportsgrounds and lawns (Pizzey & Knight 2012).	400 m W (Recorded 2000)	Potential to occur (suitable habitat and recent record nearby)
Pandion haliaetus	Osprey	MI	MI	Coasts, estuaries, bays, inlets, islands, and surrounding waters; coral atolls, reefs, lagoons, rock cliffs, stacks (Pizzey & Knight 2012).	850 m E (Recorded 2007)	Potential to occur (suitable habitat and recent record nearby)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Phaethon lepturus	White-tailed tropicbird	MI	MI, MA	Largely oceanic/pelagic species that is rarely seen over inshore waters except for at nesting colonies. Closest breeding colony is at Ashmore reef north-west of mainland Australia (Morcombe & Stewart 2021).	-	Nil (does not occur) (unreliable record)
Plegadis falcinellus	Glossy Ibis	MI	MI	Well-vegetated wetlands, wet pasture, ricefields, floodwaters, floodplains, brackish or occasionally saline wetlands, mangroves, mudflats and occasionally dry grassland (Pizzey & Knight 2012).	6.9 km SE (Recorded 1999)	Potential to occur (suitable habitat)
Pluvialis fulva	Pacific golden plover	MI	MI	Estuaries, mudflats, saltmarshes, mangroves; rocky reefs and stranded seaweed on ocean shores; margins of shallow open inland swamps; sewage ponds, short-grass paddocks, sportsgrounds, airfields, ploughed land (Pizzey & Knight 2012).	17.4 km SE (Recorded 2000)	Potential to occur (suitable habitat)
Sterna dougallii	Roseate tern	MI	MI	Offshore waters, islands, coral reefs, sand cays, beaches, tidal inlets (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Sterna hirundo	Common tern	MI	MI	Offshore waters, beaches, reefs, bays, estuaries, sandflats, saltfields, sewage ponds, freshwater wetlands (Pizzey & Knight 2012).	-	Nil (does not occur) (unreliable record)
Sternula albifrons	Little tern	MI	MI	Species is mainly coastal, being found on beaches, sheltered inlets, estuaries, lakes, sewage farms, lagoons, river mouths and deltas (Pizzey & Knight 2012).	6.8 km SE (Recorded 1999)	Potential to occur (suitable habitat)
Sula leucogaster	Brown booby	MI	MI	Pelagic species , largely occurring in tropical seas, including deep water and inshore shallows. Breed on islands off north-wester Western Australia and on the Barrier Reef (Morcombe & Stewart 2021).	-	Nil (does not occur) (unreliable record)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Thalasseus bergii	Crested tern	MI	MI	Mainly blue-water seas (especially within 3 km of land), including southern estuaries in summer and autumn (when free of silt); also tidal creeks in north, but not penetrating far into larger estuaries (DCCEEW 2023).	-	Nil (does not occur) (unreliable record)
Tringa glareola	Wood sandpiper	MI	MI	Mainly shallow fresh waters (lagoons, swamps, claypans, river pools, dams, bore overflows and sewage ponds); occasionally brackish swamps, rarely saltlakes and estuaries (Pizzey & Knight 2012).	3 km SE (Recorded 2005)	Potential to occur (suitable habitat)
Tringa stagnatilis	Marsh sandpiper	MI	MI	Mainly shallow fresh or brackish waters: swamps, lakes, river pools, soaks, sewage ponds and bore overflows. Occasionally estuaries and salt ponds, and rarely coasts (DCCEEW 2023).	3.9 km SE (Recorded 1999)	Potential to occur (suitable habitat)
Tringa totanus	Common redshank	MI	MI	Sheltered coastal wetlands such as bays, river estuaries, lagoons, inlets and saltmarsh (with bare open flats and banks of mud or sand). Also found around saltlakes, freshwater lagoons, artificial wetlands and saltworks and sewage farms (Higgins & Davies 1999).	-	Nil (does not occur) (unreliable record)
Actitis hypoleucos	Common sandpiper	MI	MI	Edge of sheltered waters salt or fresh, e.g. estuaries, mangrove creeks, rocky coasts, near-coastal saltlakes (including saltwork ponds), river pools, lagoons, claypans, drying swamps, flood waters, dams and sewage ponds. Preferring situations where low perches are available (Johnstone & Storr 1998).	370 m W (Recorded 2000)	Potential to occur (suitable habitat and recent record nearby)
Falco peregrinus	Peregrine falcon	OS	-	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes (Johnstone and Storr 1998).	16.5 km SE (Recorded 2001)	Likely to occur (suitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Invertebrate						
Cristilabrum buryillum	Buryill Point camaenid land snail (Ningbing Ranges)	CR	-	Discovered south of Ningbing Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum grossum	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered nouth of Four Mile Creek, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum monodon	A camaenid land snail (Ningbing Ranges)	CR	-	Occupies Small portion of central Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum primum	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered south of Ningbing Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum rectum	A camaenid land snail (central Ningbing Ranges)	CR	-	Occupies Small portion of central Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum simplex	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered south of Tanmurra Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum solitudum	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered north of Tanmurra Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Ningbingia australis australis	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered north of Tanmurra Creek, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Ningbingia australis elongata	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered north of Tanmurra Creek, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Ningbingia bulla	Knob Peak camaenid land snail (Ningbing Ranges)	CR	-	Discovered on the north end of Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Ningbingia dentiens	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered on the north end of Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Ningbingia laurina	Lauries' camaenid land snail (Ningbing Ranges)	CR	-	Discovered on the north end of Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Ningbingia octava	No. 8 Bore camaenid land snail (Ningbing Ranges)	CR	-	Discovered on the north end of Ningbing Ranges on isolated limestone hills and low cave entrances where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Ningbingia res	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered north of Tanmurra Creek, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Turgenitubulus costus	A camaenid land snail (Ningbing Ranges)	CR	-	Discovered south of Tanmurra Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Turgenitubulus depressus	A camaenid land snail (central Ningbing Ranges)	CR	-	Discovered north of Tanmurra Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Turgenitubulus foramenus	A camaenid land snail (central Ningbing Ranges)	CR	-	Discovered opposite Tanmurra Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Turgenitubulus opiranus	Opir Hill camaenid land snail (central Ningbing Ranges)	CR	-	Discovered north of Tanmurra Bore, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Turgenitubulus tanmurrana	Tanmurra camaenid land snail (central Ningbing Ranges)	CR	-	Occupies the central Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Cristilabrum bubulum	A camaenid land snail (Ningbing Ranges)	EN	-	Discovered north of Four Mile Creek, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unsuitable habitat)
Cristilabrum isolatum	A camaenid land snail (Sandy Creek)	EN	-	Occupies Small portion of central Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Turgenitubulus christenseni	Christensen's camaenid land snail (central Ningbing Ranges)	EN	-	Discovered north of Tanmurra Creek, Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Turgenitubulus pagodula	Pagoda camaenid land snail (The Gorge, central Ningbing Ranges)	VU	-	Occupies the central Ningbing Ranges on isolated limestone hills where it can be found on rocks and amongst litter.	-	Nil (does not occur) (unreliable record)
Amplirhagada questroana	El Questro Station camaenid land snail	P1	-	Discovered at El Questro Station near Wyndham.	-	Nil (does not occur) (unreliable record)
Rhagada gibbensis	Gibb River camaenid land snail	P1	-	Discovered south of Gibb River Road, Oscar Ranges and can be found under large spinifex or grass clumps, especially those located downslope from a rock mass, where litter washed off the slopes can accumulate.	-	Nil (does not occur) (unreliable record)
Prymnbriareus nimberlinus	Nimberline camaenid land snail (El Questro Station)	P3	-	Found in the Nimberline area of El Questro Station, more likely discovered in tree shaded sites. To be discovered in shaded, tree covered areas.	37.8 km SW (Recorded 1988)	Nil (does not occur) (unsuitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Mammals						
Dasyurus hallucatus	Northern quoll	EN	EN	Most abundant in rocky eucalypt woodland but occurs in range of vegetation types, mostly within 200 km of the coast (Menkhorst & Knight 2011).	27.8 km N (Recorded 2008)	Likely to occur (suitable habitat)
Mesembriomys gouldii gouldii	Black-footed tree-rat, djintamoonga	EN	EN	Occurs mostly in lowland open forests and woodlands dominated by Eucalyptus miniata and/or E. tetrodonta, particularly where these forests have a relatively dense shrubby understorey. Dens in tree hollows or occasionally in dense foliage or buildings.	51 km NW (Recorded 1900)	Nil (does not occur) (unsuitable habitat)
Petrogale concinna monastria	Nabarlek (Kimberley)	EN	EN	Rugged sandstone areas with high rainfall in north-western Kimberley, occuring on four, possibly five islands. Shelters in caves in cliffs and rockpiles during the day, emerging at night to feed.	-	Nil (does not occur) (unreliable record)
Macroderma gigas	Ghost bat	VU	VU	Requires undisturbed roost caves or mineshafts, usually complex systems with several openings (Menkhorst and Knight 2011).	32.7 km N (Recorded 2009)	Nil (does not occur) (unsuitable habitat)
Trichosurus vulpecula arnhemensis	Northern brushtail possum	VU	-	Distributed across top end and Kimberley region.	-	Nil (does not occur) (unreliable record)
Xeromys myoides	False water-rat	-	VU	Saline grassland, mangroves, margins of freshwater swamps and lakes located close to foredunes. Occurs in coastal top end of the Northern Territory and on the Queensland coast from Gold Coast to Proserpine Menkhorst & Knight 2011).	-	Nil (does not occur) (unreliable record)
Hipposideros stenotis	Northern leaf-nosed bat	P2	-	Known to occupy sandstone caves or piles of boulders. Abandoned mines have also provided roosting habitat. Forages in woodlands and rainforest habitat and across open hilly plains dominated by spinifex.	35.2 km E (Recorded 2016)	Nil (does not occur) (unsuitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Vespadelus douglasorum	Yellow-lipped cave bat	P2	-	Rocky escarpment country in vegetation ranging from monsoon forest and vine thickets to open woodland and savannah (Menkhorst & Knight 2011).	37.3 km N (Recorded 2009)	Potential to occur (suitable habitat)
Hydromys chrysogaster	Rakali	P4	-	Areas with permanent water, fresh, brackish or marine. Likely to occur in all major rivers and most of the larger streams as well as bodies of permanent water in the lower south-west (Christensen et al. 1984). Intact riparian vegetation and associated bank stability is critical to their survival (DWER 2023).	1.3 km E (Recorded 1968)	Likely to occur (suitable habitat and recent record nearby)
Leggadina lakedownensis	Short-tailed mouse	P4	-	Mostly moist tussock grassland or tropical savannah on clay soils and stony hummock grassland in the Pilbara (Menkhorst & Knight 2011).	7.5 km SE (Recorded 1980)	Potential to occur (suitable habitat)
Rhinonicteris aurantia	Orange leaf-nosed bat	P4	-	During the dry season the species roosts in deep, warm, humid caves or mines and forages nearby; in the wet season it is more widespread and may not require caves for roosting (Menkhorst & Knight 2011).	35.4 km E (Recorded 2016)	Potential to occur (suitable habitat)
Wyulda squamicaudata	Scaly-tailed possum	P4	-	Low open woodland, riparian forest and vine thickets where tumbled boulders provide shelter. Patchily distributed in coastal North-western kimberley (Menkhorst & Knight 2011)	48.8 km SE (Recorded 2010)	Unlikely to occur
Reptiles						
Chelodina kuchlingi	Kuchling's snake-necked turtle	CR	-	Distributed across the Ord River floodplain.	19.6 km SE (Recorded 1974)	Likely to occur (suitable habitat)

Species name	Common name	Level of		Habitat	Nearest DBCA Record	Likelihood of occurrence
		WA	EPBC Act			
Tiliqua scincoides intermedia	Northern blue-tongue skink	-	CR	Dissected sandstone plateaus and gorges, limestone ranges, granite, basalt and dolerite hills, shale undulations, sand plains, sandy waterways, swamps, cracking clay floodplains and coastal flats. Riparian forest, vine scrub, monsoon rainforest, pandanus-lined gorges, melaleuca forest, eucalypt woodland and savanna, sparse and dense shrubland, and spinifex and tussock grassland (DCCEEW 2023).	-	Nil (does not occur) (unreliable record)
Varanus mitchelli	Mitchell's water monitor	-	CR	Freshwater and saline wetlands thrat range from seasonal gorges to large rivers and floodplains. Rivers, creeks, riffle zones, gorges, springs, lagoons, swamps, mangroves and foreshores (DCCEEW 2023).	-	Nil (does not occur) (unreliable record)
Varanus mertensi	Merten's water monitor	-	EN	Perennial and semi-permanent pools, margins of permanent streams and rivers, floodplain billabongs, lagoons, man-made irrigation channels (DCCEEW 2023).	33 km SE (Recorded 2011)	Likely to occur (suitable habitat)
Acanthophis hawkei	Plains Death Adder	-	VU	Flat, treeless, cracking-soil riverine floodplains.	-	Nil (does not occur) (unreliable record)
Crocodylus porosus	Saltwater crocodile	MI	MI	Coastal rivers and swamps. Inland along major drainage systems and occasionally in the open sea (Wilson & Swan).	2.4 km W (Recorded 1980)	Recorded
Crocodylus johnstoni	Freshwater crocodile	OS	-	Freshwater rivers and billabongs (Wilson and Swan 2021).	40 km SE (Recorded 2016)	Likely to occur (suitable habitat)

Note: CR=critically endangered, EN=endangered, VU=vulnerable, CD=conservation dependent, MI=migratory, OS=other specially protected, P1=Priority 1, P2=Priority 2, P3=Priority 3, P4=Priority 4. Species with a high or moderate likelihood to occur within the site are shaded green.

Appendix D

Conservation Significant Communities and Likelihood of Occurrence Assessment

Code	Community name	TEC/ PEC	Level of significa		Likelihood of occurrence
			State	EPBC Act	
Point Spring	Assemblages of Point Spring rainforest swamp	PEC	P1	-	Low
Victoria-Bonaparte wetlands	Assemblages of the wetlands with the organic mound springs on the tidal mudflats of the Victoria-Bonaparte bioregion	PEC	P1	-	Low
Vegetation Association 915	Kimberley Vegetation Association 915	PEC	P1	-	Low
Vegetation Association 918	Kimberley Vegetation Association 918	PEC	P1	-	Low
Oryza australiensis	Oryza australiensis (wild rice) grasslands on alluvial flats of the Ord River	PEC	P1	-	Low
Snails	of limestone hills (Jeremiah Hills and Ningbing	PEC	P3	-	Low
Dinnabung	Dinnabung Land System	PEC	P3	-	Low
System	Ivanhoe Land System	PEC	P3	-	Low
Vegetation Association 838	Kimberley Vegetation Association 838	PEC	P3	-	Low
Vegetation Association 908	Kimberley Vegetation Association 908	PEC	P3	-	Low
Legune Land System	Legune Land System	PEC	P3	-	Low
Tanmurra Land System	Tanmurra Land System	PEC	P3	-	Low
Willeroo Land System	Willeroo Land System	PEC	P3	-	Low

Note: TEC=threatened ecological community, PEC=priority ecological community, CR=critically endangered, EN=endangered, VU=vulnerable, P3=priority 3

Appendix E

Flora Species List

Family	Status	Species
Acanthaceae		*?Avicennia marina*
		Nelsonia campestris
Aizoaceae		*Trianthema triquetrum*
Amaranthaceae		*Gomphrena canescens subsp. canescens*
		Ptilotus corymbosus
		Ptilotus exaltatus
Apocynaceae		*Alstonia linearis*
	DP	*Calotropis procera*
Asteraceae	*	*Tridax procumbens*
Bignoniaceae	P2	*Dolichandrone filiformis*
Bixaceae		*Cochlospermum fraseri*
Boraginaceae		*Euploca brachythrix*
Chenopodiaceae		*Salsola australis*
		Tecticornia ?indica
Cleomaceae		*Arivela viscosa*
Combretaceae		*Terminalia canescens*
Convolvulaceae		*Bonamia pannosa*
		Ipomoea sp.
Cucurbitaceae		*Cucumis sp.*
Cyperaceae		*Bulbostylis barbata*
		Cyperus difformis
		Fimbristylis rara
Euphorbiaceae	DP, WoNS	*Jatropha gossypifolia*
Fabaceae		*Acacia dunnii*
		Acacia holosericea
	*	*Alysicarpus ovalifolius*
		Cajanus marmoratus
		Cajanus pubescens
	*	*Clitoria ternatea*
		Crotalaria brevis
		Dichrostachys spicata
		?Fabaceae sp.
		Indigofera linifolia

		Lysiphyllum cunninghamii
		Neptunia monosperma
		Neptunia scutata
		Senna venusta
		Sesbania erubescens
	*	*Stylosanthes hamata*
		Tephrosia rosea
		Tephrosia sp. B Kimberley Flora (C.A. Gardner 7300)
		?Tephrosia sp.
	DP, WoNS	*Vachellia nilotica subsp. Indica*
Goodeniaceae	P3	*Goodenia byrnesii*
		Goodenia coronopifolia
Loganiaceae		*Mitrasacme nudicaulis*
Malvaceae		*Adansonia gregorii*
	P3	*Brachychiton incanus*
		Gossypium australe
		Sida sp.
Meliaceae	DP	*Azadirachta indica*
Montiaceae		*Calandrinia uniflora*
Moraceae		*?Ficus sp.*
Myrtaceae		*Calytrix exstipulata*
		?Eucalyptus sp.
		Melaleuca ?lasiandra
Onagraceae		*Ludwigia perennis*
Orobanchaceae		*Buchnera linearis*
		Striga squamigera
Passifloraceae	*	*Passiflora foetida*
Phyllanthaceae		*Nellica maderaspatensis*
Poaceae		*Arisitda holathera var. holathera*
	*	*Cenchrus ciliaris*
	*	*Chloris barbata*
	*	*Chloris pumilio*
		?Cynodon sp.
		Cynodon convergens
		Dactyloctenium radulans
		Enneapogon polyphyllus
		Eragrostis falcata

		Eragrostis tenellula
	*	*Eragrostis trichophora*
		Eriachne sulcata
		Heteropogon contortus
		Panicum decompositum
		Poaceae sp. 1
		Sorghum plumosum
		Sorghum sp.
		Sorghum stipoideum
		Sporobolus virginicus
		Triodia sp.
	*	*Urochloa trichopus*
		Xerochloa barbata
		Xerochloa imberbis
Portulacaceae		*Portulaca digyna*
		?Portulaca sp. 1
		Portulaca sp. 2
Primulaceae		*?Aegiceras corniculatum*
Proteaceae		*Grevillea ?erythroclada*
Rhizophoraceae		*?Ceriops australis*
Violaceae		*Afrohybanthus aurantiacus*

*=non-native, DP=declared pest, P3=priority 3

Appendix F

Sample Data

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: Q1

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, Q1: Page 1 of 2

Quadrat and landform details

Sample type:	quadrat	Size:	50 m x 50 m
NW corner easting:	403925.23	NW corner northing:	8291020.55
Altitude (m):	22.80	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	damp	Landform:	depression
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish
Soil type/texture	clay/loam	Bare ground (%):	25
Rocks (%) and type:	No rocks	Soil colour:	brown/orange
Litter:	1% (twigs,,)	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: Q1

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, Q1: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Cynodon sp.	0.5
DP	*Calotropis procera*	1
*	*Chloris barbata*	15
	Poaceae sp. 1	5
	Senna venusta	<1
	Sesbania erubescens	1
	Tecticornia ?indica	7
	Xerochloa barbata	0.5
	Xerochloa imberbis	1

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R2

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R2: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404079.49	NW corner northing:	8291180.38
Altitude (m):	24.00	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	slightly damp	Landform:	depression
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	No rocks	Soil colour:	brown/orange
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R2

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R2: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
DP	*Calotropis procera*	
*	*Chloris barbata*	
	Eragrostis falcata	
	Salsola australis	
	Tecticornia ?indica	
	Trianthema triquetrum	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R3

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R3: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404175.51	NW corner northing:	8291414.64
Altitude (m):	22.78	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	slightly damp	Landform:	depression
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	No rocks	Soil colour:	brown/orange
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R3

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R3: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
*	*Chloris barbata*	
	Eragrostis falcata	
	Salsola australis	
	Tecticornia ?indica	
	Trianthema triquetrum	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: Q4

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, Q4: Page 1 of 2

Quadrat and landform details

Sample type:	quadrat	Size:	50 m x 50 m
NW corner easting:	404269.46	NW corner northing:	8291576.53
Altitude (m):	20.31	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	slightly damp	Landform:	depression
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish
Soil type/texture	clay/loam	Bare ground (%):	80
Rocks (%) and type:	No rocks	Soil colour:	brown/orange
Litter:	0% (,,)	Vegetation condition:	poor to good



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: Q4

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, Q4: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	Eragrostis falcata	1
*	*Jatropha gossypifolia*	<1
	Sesbania erubescens	1
	Tecticornia ?indica	7
	Xerochloa barbata	3
	Xerochloa imberbis	1

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R5

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R5: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404696.62	NW corner northing:	8291596.00
Altitude (m):	46.63	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	upper slope
Time since fire:	no evidence	Disturbance:	high - weeds
Soil type/texture	silt/	Bare ground (%):	5
Rocks (%) and type:	55%, ironstone	Soil colour:	red/brown
Litter:	N/A	Vegetation condition:	very good



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R5

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R5: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Eucalyptus sp.	
	?Fabaceae sp. 1	
	Cochlospermum fraseri	
	Eragrostis tenellula	
	Grevillea ?erythroclada	
	Ipomoea sp.	
	Sorghum plumosum	
	Terminalia canescens	
	Triodia sp.	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: Q6

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, Q6: Page 1 of 2

Quadrat and landform details

Sample type:	quadrat	Size:	50 m x 50 m
NW corner easting:	404605.66	NW corner northing:	8291615.21
Altitude (m):	29.57	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	mid-slope
Time since fire:	no evidence	Disturbance:	high - weeds
Soil type/texture	clay/loam	Bare ground (%):	2
Rocks (%) and type:	15%, ironstone	Soil colour:	red/brown
Litter:	5% (leaves,twigs,)	Vegetation condition:	very good



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: Q6

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, Q6: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Eucalyptus sp.	3
	?Fabaceae sp. 1	0.5
	Afrohybanthus aurantiacus	0.1
DP	*Azadirachta indica*	1
	Bulbostylis barbata	0.5
	Calyrix existipulata	<1
	Cochlospermum fraseri	3
	Crotalaria brevis	1
	Dichrostachys spicata	opp
P2	*Dolichandrone filiformis*	<1
	Eragrostis tenellula	10
	Euploca brachythrix	<1
P3	*Goodenia byrnesii*	<1
	Ludwigia perennis	<1
	Lysiphyllum cunninghamii	7
	Melaleuca ?lasiandra	opp
	Mitrasacme nudicaulis	0.1
	Sida sp.	<1
	Sorghum plumosum	35
	Striga squamigera	<1
	Terminalia canescens	7
	Triodia sp.	10

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R7

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R7: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404412.29	NW corner northing:	8291753.35
Altitude (m):	22.89	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	flat
Time since fire:	no evidence	Disturbance:	high - weeds, ruubish, gravel pit
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	No rocks	Soil colour:	red/brown
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R7

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R7: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	Adansonia gregorii	
DP	*Calotropis procera*	
	Ipomoea sp.	
	Ptilotus corymbosus	
	Sorghum plumosum	
*	*Stylosanthes hamata*	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R8

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R8: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404739.56	NW corner northing:	8292291.77
Altitude (m):	20.23	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	flat
Time since fire:	no evidence	Disturbance:	high -
Soil type/texture	clay/loam	Bare ground (%):	0
Rocks (%) and type:	No rocks	Soil colour:	red/brown
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R8

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R8: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Portulaca sp. 1	
DP	*Calotropis procera*	
	Cochlospermum fraseri	
	Eragrostis tenellula	
	Lysiphyllum cunninghamii	
	Melaleuca ?lasiandra	
	Nellica maderaspatensis	
	Sorghum plumosum	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R9

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R9: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404605.55	NW corner northing:	8291694.08
Altitude (m):	29.50	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	flat
Time since fire:	no evidence	Disturbance:	high - weeds, ruubish, gravel pit
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	No rocks	Soil colour:	red/brown
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R9

Project no.: EP26-17
Date: 22/04/2026 **Status** Non-permanent
Author: KLG, R9: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	Adansonia gregorii	
DP	*Azadirachta indica*	
DP	*Calotropis procera*	
	Cochlospermum fraseri	
	Crotalaria brevis	
	Grevillea ?erythroclada	
	Lysiphyllum cunninghamii	
	Nellica maderaspatensis	
	Ptilotus corymbosus	
	Ptilotus exaltatus	
	Sida sp.	
	Sorghum plumosum	
*	*Sorghum sp.*	
*	*Stylosanthes hamata*	
	Trianthema triquetrum	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R10

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R10: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	403865.00	NW corner northing:	8291029.04
Altitude (m):	20.46	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	saturated	Landform:	waterway
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish, road side
Soil type/texture	clay/	Bare ground (%):	N/A
Rocks (%) and type:	No rocks	Soil colour:	brown/black
Litter:	N/A	Vegetation condition:	very good



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R10

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R10: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Ficus sp.	
	Adansonia gregorii	
	Sesbania erubescens	
DP, WoNS	*Vachellia nilotica subsp. Indica*	
	Trianthema triquetrum	
	?Aegiceras corniculatum	
	?Avicennia marina	
	?Ceriops australis	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R11

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R11: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	405010.03	NW corner northing:	8292584.27
Altitude (m):	18.69	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	waterway
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish, road side
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	1%, ironstone	Soil colour:	red/brown
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R11

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R11: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Portulaca sp. 1	
	Bonamia pannosa	
	Calandrinia uniflora	
DP	*Calotropis procera*	
	Cochlospermum fraseri	
	Eriachne sulcata	
	Gomphrena canescens subsp. canescens	
P3	*Goodenia byrnesii*	
	Goodenia coronopifolia	
	Melaleuca ?lasiandra	
	Ptilotus corymbosus	
	Ptilotus exaltatus	
	Sorghum plumosum	
	Trianthema triquetrum	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R12

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R12: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404705.46	NW corner northing:	8292002.02
Altitude (m):	29.34	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	lower slope
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish, road side
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	10%, ironstone	Soil colour:	brown/orange
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R12

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R12: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	?Cynodon sp.	
DP	*Azadirachta indica*	
	Cochlospermum fraseri	
	Eragrostis tenellula	
	Euploca brachythrix	
	Ludwigia perennis	
	Melaleuca ?lasiandra	
	Mitrasacme nudicaulis	
	Sorghum plumosum	
	Striga squamigera	
*	*Stylosanthes hamata*	
	Terminalia canescens	
	Triodia sp.	

Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R13

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R13: Page 1 of 2

Quadrat and landform details

Sample type:	releve	Size:	N/A
NW corner easting:	404662.22	NW corner northing:	8291768.65
Altitude (m):	36.65	Geographic datum/zone:	GDA2020/Zone 52
Soil water content:	dry	Landform:	lower slope
Time since fire:	no evidence	Disturbance:	high - weeds, rubbish, road side
Soil type/texture	clay/loam	Bare ground (%):	N/A
Rocks (%) and type:	5%, ironstone	Soil colour:	brown/orange
Litter:	N/A	Vegetation condition:	poor



Vegetation Sample Data

Shire of Wyndham East Kimberly Barytes Road
Environmental Support

Sample Name: R13

Project no.: EP26-17
Date: 24/04/2026 **Status** Non-permanent
Author: KLG, R13: Page 2 of 2

Species Data

* denotes non-native species

Status	Confirmed name	Cover (%)
	Acacia dunnii	
	Adansonia gregorii	
DP	*Azadirachta indica*	
DP	*Calotropis procera*	
	Calyrix existipulata	
*	*Chloris barbata*	
	Cochlospermum fraseri	
	Eragrostis falcata	
	Eragrostis tenellula	
	Gomphrena canescens subsp. canescens	
	Grevillea ?erythroclada	
	Ludwigia perennis	
	Ptilotus corymbosus	
	Sorghum plumosum	
*	*Stylosanthes hamata*	
	Terminalia canescens	
	Triodia sp.	

Appendix G

Fauna Species List

Species list
Barytes Road, Wyndham

Category	Status	Species name	Common name	Record type
Amphibians				
	DP(C1)	*Rhinella marina**	Cane toad	Sight
Birds				
		Corvid sp.		Sight
		Haliastur sphenurus	Whistling kite	Sight
		Grallina cyanoleuca	Magpie lark	Sight
		Geophaps plumifera	Spinifex pigeon	Sight
		Vanellus miles	Masked lapwing	Sight
		Ardea plumifera	Plumed egret	Sight
		Taeniopygia guttata	Zebra finch	Sight
		Rhipidura leucophrys	Willie wagtail	Sight
Mammals				
		Macropus sp.		Tracks
Reptiles				
	MI	*Crocodylus prosus*	Saltwater crocodile	Sight

Note: * denotes introduced fauna species, DP=declared pest under the BAM Act, MI=Migratory species under the BC and EPBC Acts

Habitat Assessment
Barytes Road, Wyndham

Sample Name: 1

Project no.: EP26-017(04) **Date:** 22/04/2026

Author: KLG, **Datum/zone:** GDA94/Zone 50

Sample details

Dominant Vegetation *Sparse shrubland of native and non-native species over forbs and grasses.*

Habitat type Grassland Soil type Clay

Notes 0



Habitat Assessment
Barytes Road, Wyndham

Sample Name: 2

Project no.: EP26-017(04) **Date:** 22/04/2026
Author: KLG, **Datum/zone:** GDA94/Zone 50

Sample details

Dominant Vegetation *Heavily distubed and altered areas of infrastructure consisting of bare ground and scattered native and non-native planted species.*

Habitat type Cleared land w/ scattered vegeta Soil type Clay

Notes 0



Habitat Assessment
Barytes Road, Wyndham

Sample Name: 3

Project no.: EP26-017(04) **Date:** 22/04/2026

Author: KLG, **Datum/zone:** GDA94/Zone 50

Sample details

Dominant Vegetation *Woodland of Ficus sp. and Adansonia sp. over sparse shrubland along watercourses.*

Habitat type Mangrove low shrubland Soil type Clay

Notes While this has been listed as a mangrove community, it should be noted that the mangrove community only extends marginally into the site, with this sample capturing the edge of the mangrove vegetation.



Habitat Assessment
Barytes Road, Wyndham

Sample Name: 4

Project no.: EP26-017(04) **Date:** 22/04/2026

Author: KLG, **Datum/zone:** GDA94/Zone 50

Sample details

Dominant Vegetation *Open areas on salt flats or claypans with grasses, samphire, and forbs.*

Habitat type Saline flats Soil type Clay

Notes While this has been listed a mangrove community, it should be noted that the mangrove community o



Habitat Assessment
Barytes Road, Wyndham

Sample Name: 5

Project no.: EP26-017(04) **Date:** 22/04/2026

Author: KLG, **Datum/zone:** GDA94/Zone 50

Sample details

Dominant Vegetation *Artificial water body.*

Habitat type Water body Soil type 0

Notes 0

