Appendix M

Terrestrial Fauna and Targeted Black Cockatoo Habitat Survey

SIMCOA
Silicon Metal Company of Australia

Simcoa Operations Pty Ltd

North Kiaka Proposal Terrestrial Fauna and Targeted Black Cockatoo Habitat Survey

GHD

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Executive summary

Simcoa Operations Pty Ltd (Simcoa) is proposing to expand operations for a new quartzite mine located approximately 15 km north of Moora in the Wheatbelt of Western Australia (WA). Simcoa engaged GHD Pty Ltd (GHD) to undertake several studies to support the approvals process for the expansion.

This report documents the outcomes of the single season Level 2 fauna survey of the greenfields mine location to identify key ecological constraints.

This report is subject to, and must be read in conjunction with, the limitations set out in section 1.6 and the assumptions and qualifications contained throughout the Report.

The survey area comprised six broad fauna habitat types: Wandoo Woodland, Kyaka Brook- Riparian/ Dam/small Water Body, Mallee Woodland, Mixed Shrublands on Low hills, Quartzite Outcropping formations and Disturbed areas.

The conservation value of each habitat type has been rated based on condition, structural complexity, faunal diversity and habitat for conservation significant fauna (i.e. contains essential habitat for breeding and/or feeding). Habitat values for each of the six types is considered high to moderate value. A large portion of the survey area is disturbed and comprises existing mines, tracks, land cleared for agriculture and other purposes and old fencing. These areas have low environmental significance.

The DBCA *NatureMap* search identifies 204 vertebrate fauna taxa previously recorded within 20 km of the survey area (DBCA 2018). This total included seven amphibians, 157 birds, one fish, 8 mammals and 31 reptiles.

The trapping program recorded 97 vertebrate fauna species utilising the survey area, including 16 mammals, 63 birds and 18 reptiles. Of these, five introduced species were identified and are mammals.

One conservation significant fauna species was identified as present and an additional one potentially occurring in the survey area based on a combination of observations and habitat assessment.

Species known to persist in the survey area:

– Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) – listed under Schedule 2 (Endangered) under the State *Biodiversity Conservation Act 2016* (BC Act) and Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Species likely to be present in the survey area:

– Peregrine Falcon (*Falco peregrinus*) – Other special Protection under the BC Act.

Of these conservation significant species identified, the Carnaby's Black Cockatoo is the only species that would rely on the resources (foraging habitat present) within the survey area to persist in the region. The survey area (and foraging habitat) is within 12 km of known breeding areas of Carnaby's Black Cockatoo which are critical to the survival of chicks during the breeding season.

2024 Black Cockatoo assessment

This report has been revised to include results from an additional Black Cockatoo habitat assessment of the North Kiaka Development Envelope (DE), Moora Mine Development Envelope (DE), Cairn Hill North and Cairn Hill Reserve undertaken in April 2024.

Contents

Table index

Figure/Chart/Plate index

Appendices

Acronyms

Term	Definition
%	Per cent
°C	Degree Celsius
BC Act	*Biodiversity Conservation Act 2016* (State)
cm	Centimetres
DAWE	Department of Water and Environment (Commonwealth)
DBCA	Department of Biodiversity, Conservation and Attractions
DBH	Diameter breast height
DEE	Department of Environment and Energy (Commonwealth)
EP Act	*Environment Protection Act 1986* (State)
EPA	Environmental Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
GHD	GHD Pty Ltd
ha	Hectare
IBRA	Interim Biogeographic Regionalisation of Australia
km	Kilometre
L	Litre
m	Metre
Mining Act	*Mining Act 1978* (State)
mm	Millimetre
PMST	Protected Matters Search Tool
RiWI Act	*Rights in Water and Irrigation Act 1914* (State)
Simcoa	Simcoa Operations Pty Ltd
SOPs	Standard Operating Procedures
SRE	Short-range endemic
State Agreement Act	*Silicon (Kemerton) State Agreement Act 1987* (State)
WA	Western Australia

1. Introduction

1.1 Project background

Simcoa Operations Pty Ltd (SIMCOA) operates the Moora Quartzite Mine (the Moora Mine) and Kemerton Silicon Smelter (the Smelter) to produce high grade silicon for both domestic and export markets. High purity quartzite is mined at Moora Mine, located 15 kilometre (km) north of Moora on tenements M70/191, G70/91, G70/92 and G70/93, in the Wheatbelt region of Western Australia (WA) and then transported via truck to the Smelter located in the Kemerton Strategic Industrial Area approximately 17 km north-east of Bunbury in the South West of WA (Figure 1 in Appendix A).

The Moora Mine and Smelter are governed by the provisions of the Silicon (Kemerton) *State Agreement Act 1987* (the State Agreement Act) in addition to environmental approvals issued in accordance with Parts IV and V of the *Environment Protection Act 1986* (EP Act), the *Mining Act 1978* (Mining Act) and the *Rights in Water and Irrigation Act 1911* (RiWI Act).

SIMCOA is proposing to develop a new greenfield quartzite mine at North Kiaka (the Project) on tenement M70/1292. The Project is located approximately 2 km north of the Existing Mine. Development of the Project is not currently covered by any of the approvals for the Existing Mine under Ministerial Statement 813 (MS813).

As part of development of the Project at North Kiaka DE, several studies are required to support the environmental approvals process. This report documents the outcomes of the single season Level 2 fauna survey in 2018 of the greenfields mine location to identify key ecological constraints. This report also documents the results of the additional targeted survey for Black Cockatoo assessment undertaken by GHD in April 2024.

1.2 Purpose of this report

The purpose of the survey is to document the outcomes of the fauna assessment and identify key ecological constraints within the proposed area in order to inform the environmental approvals required for the proposed expansion of the mine area.

A large portion of the proposed North Kiaka DE was surveyed and reported by GHD in 2018 '*Fauna Assessment Report North Kiaka Proposed Mine Expansion*' the details of which have been referenced within this report. The additional Black Cockatoo foraging assessment conducted in 2024 within the North Kiaka DE, Moora Mine DE (EPA approved), Cairn Hill North and Cairn Hill Reserve has been built into this report.

1.3 Survey area

The 2018 survey area encompasses four proposed pits, waste rock landforms and infrastructure areas approximately 2 km north of the Moora Mine and covered approximately 471.66 hectares (ha) as shown in Figure 1 in Appendix A.

The 2024 targeted survey area (Figure 6 in Appendix F) comprised of the North Kiaka DE, Moora Mine DE, Cairn Hill North and Cairn Hill Reserve. The Approved Development (Moora Mine DE, 239.21 ha) is approximately 2km south of North Kiaka DE (216.55 ha), 1km North of Cairn Hill North (58.34ha) and 3 km North of Cairn Hill Reserve (152.01 ha).

1.4 Scope of works

The scope of works was to undertake a Level 2 vertebrate fauna survey for the site. This includes:

- Description and mapping of fauna habitat types
- Inventory of vertebrate fauna taxa
- Identification of any conservation significant fauna and habitats
- Identification of any pest species present
- Preparation of the Fauna Assessment Report.

– The scope of works for the additional 2024 survey area was to conduct a Targeted Black Cockatoo Foraging Habitat Assessment.

1.5 Relevant legislation, conservation codes and background information

In WA, some fauna are protected under both Australian Government and State Government legislation. In addition, regulatory authorities also provide a range of guidance and information on expected standards and protocols for environmental surveys.

The following guiding documents informed the survey methodology and reporting of this fauna assessment:

– *Terrestrial Biological Surveys as an Element of Biodiversity Protection, Position Statement No. 3* (Environmental Protection Authority (EPA) 2002).
– *Technical Guidance – Sampling methods for terrestrial vertebrate fauna (*Formerly Statement 56) (EPA 2016a)
– *Technical Guidance, Terrestrial Fauna Surveys* (EPA 2016b).
– Environmental Protection Authority 2020, Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment, EPA, Western Australia.

1.6 Limitations and assumptions

This report: has been prepared by GHD Pty Ltd (GHD) for Simcoa Operations Pty. Ltd. and may only be used and relied on by Simcoa Operations Pty. Ltd. for the purpose agreed between GHD and the Simcoa Operations Pty. Ltd. as set out in section 1.4 of this report.

GHD otherwise disclaims responsibility to any person other than Simcoa Operations Pty. Ltd. arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 5 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Simcoa Operations Pty. Ltd. and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.

During the 2024 Black Cockatoo assessment it must be noted that foraging evidence observed within the survey area was from the 2023 flowering season as *Banksia sessilis* flowers mostly from July-November.

Black Cockatoo foraging scores where assigned utilising previously mapped vegetation types from Trudgen 2012. It is expected that some of the vegetation types and compositions previously mapped by Trudgen 2012 may have altered over this time period.

2. Methodology

2.1 Desktop assessment

Prior to the commencement of the field survey, a desktop assessment was undertaken to identify relevant environmental information relating to the study area and assist in survey design.

This included a review of:

– The Department of the Environment and Energy (DEE) (now the Department of Department of Agriculture, Water and the Environment (DAWE)) Protected Matters Search Tool (PMST) to identify communities and species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) potentially occurring within the study area (DEE 2018a) (Appendix C)
– The Department of Biodiversity, Conservation and Attractions (DBCA) *NatureMap* database for fauna species previously recorded within the study area (DBCA 2007) (Appendix C)
– Bamford (2001), *Vertebrate Fauna of the Simcoa Operations Pty Ltd Moora Mine (Western Ridge)* Unpublished Report
– Existing datasets including previous broad-scale vegetation mapping of the survey area, aerial photography, geology/soils and landscape information to provide background information on the variability of the environment, likely vegetation units and fauna habitats and to identify areas with the potential to contain Threatened and Priority fauna species.

The known biological constraints were mapped in 2018 (Figure 2 in Appendix A) and again in 2024 (Figure 7 in Appendix F).

2.2 Field survey

2.2.1 Field survey details and timing

Field surveys consisted of a 12-day (19 - 30 November 2018) Level 2 trapping program and reconnaissance survey. Glen Gaikhorst, Brad Maryan and Timothy Moulds undertook the surveys over this time. The field survey incorporated Short-Range Endemic (SRE) trapping and survey assessment. The SRE data are provided in a separate report produced by Invertebrate Solutions (2019).

2.2.1.1 Additional Black Cockatoo assessment

Zoologists Sarah Flemington and Lucas Hurst undertook a targeted Black Cockatoo habitat assessment between the 9th and 12th April 2024. The field survey was undertaken to verify the results of the desktop assessment and the previous survey completed in 2018 within the North Kiaka development envolpe. The 2024 survey increases survey effort, identifies and records additional Black Cockatoo species, foraging evidence and potential habitat present at the time of the survey.

The results from the 2018 field survey were considered, referenced and used as the basis for this current survey. The 2024 survey builds on the 2018 survey results.

2.2.2 Permits and ethics

A Regulation 17 Licence to Take Fauna for Scientific Purposes was obtained from DBCA prior to undertaking the fauna survey (Licence Number: 08-003052-1). The fauna survey (specifically trapping and animal handling) was undertaken in accordance with Standard Operating Procedures (SOPs) which were required to be followed under the conditions of GHD's fauna trapping permit. At the time of survey, compliance with these SOPs was accepted by DBCA as evidence of ethical treatment of animals:

2.2.3 Habitat assessment

The survey area was assessed for habitat type, structural complexity, connectivity, disturbance, type and extent of resource availability and value for fauna. Specifically, the assessment included:

- Habitat structure (e.g. vegetation type, presence/absence of overstorey, mid-storey, understorey, and ground cover).
- Presence/absence of refuge including fallen timber (coarse woody debris), hollow-bearing trees and stags and rocks/breakaways, and the type and extent of each refuge
- Location of the habitat within the survey area in comparison to the habitat within the surrounding landscape
- Habitat connectivity and identification of wildlife corridors within and immediately adjacent to the survey area
- Identification and evaluation of key habitat features, and types identified during the desktop assessment relevant to fauna of conservation significance
- Evaluation of the likelihood of occurrence of conservation significant fauna within the environments present (based on presence of suitable habitats and species recorded)
- A representative photograph of each habitat type.

2.2.4 Fauna identification and nomenclature

Species Identification

Identification of fauna species was made in the field using available field guides and electronic guides (Table 1). Where identification was not possible, photographs of specimens were collected to be identified following the field survey.

Table 1 Fauna references

Fauna group	Field guide
Mammals	Menkhorst and Knight (2010), Van Dyck and Strahan (2008)
Bats	Churchill (2008), Menkhorst and Knight (2010)
Birds	Morcombe (2004)
Reptiles	Wilson and Swan (2017), Storr *et al.* (1999), Storr *et. al.* (2002)
Amphibians	Tyler and Doughty (2009)

Nomenclature

Nomenclature used in this report follows that used by the WA Museum as reported on NatureMap. This nomenclature is deemed the most up-to-date species information for WA fauna, with the exception of birds, which follows Christidis and Boles (2008).

2.2.5 Trapping program

Trapping for terrestrial fauna was undertaken using a series of standardised systematic trapping quadrat sites (quadrats) comprising a combination of pit-fall, Elliott box, cage and funnel traps. Details of each trap type used are provided below. Where possible two quadrats were established per habitat type identified within the survey area. Some habitat areas were too small to establish two sites therefore only one was used. A total of six quadrats were used for the survey area. Each quadrat was systematically surveyed (trapped) for a minimum of seven nights. Quadrats were checked twice daily (as a minimum) in the early morning and late afternoon to avoid prolonged heat exposure to trapped fauna. Trapping locations are displayed in Table 2 and presented in Figure 3 in Appendix A. The trapping program was supplemented with additional survey effort.

Table 2 Trapping Program locations 2018

Trap Site number	Habitat type	Location		Nights deployed
		Easting	Northing	
Site 1	Mixed Shrubs on small Quartzite hill	116.05223	-30.49192	7
Site 2	Mixed Shrubs on small Quartzite hill	116.05083	-30.49653	7
Site 3	Casuarina and Jam Shrubland	116.05135	-30.49940	7
Site 4	Mixed Shrubs on small Quartzite hill	116.04805	-30.49306	7
Site 5	Eucalyptus Low Woodland	116.04702	-30.49304	7
Site 6	Quartzite Ridgeline	116.04750	-30.49861	7
Total				**42**

Pit-trap with drift fence

Six pit-fall traps were established at each quadrat within the survey area. Pit-fall traps comprised of 20 litre (L) plastic buckets (30 centimetre (cm) diameter, 40 cm deep) at each quadrat. A 50 metre (m) long flywire drift fence (30 cm high) bisected the pits; directing fauna into them. Pits were spaced at seven metre intervals along the fence. Soil and an egg carton were placed within each pit to provide shade and protection for captured animals. Pit-fall traps were used to assess both vertebrate and invertebrate fauna.

Funnel traps

Ten funnel traps were used along each drift fence. Traps were placed such that animals were directed into them from the drift fence in between the pit traps. Funnel traps were covered with insulating materials to minimise heat or cold exposure to animals.

Elliot box traps

Ten Elliott box traps were used at each quadrat site. Traps were placed approximately ten metres apart and baited with universal bait (a mixture of peanut butter, rolled oats and sardines). Elliott traps were located within shady areas or covered with vegetation to minimise heat exposure to captured animals.

Cage traps

Five cage traps were placed randomly in each quadrat. Cage traps were deployed in shaded areas or shaded with hessian bags and baited with universal bait.

Avifauna

Avifauna surveys were undertaken at each of the quadrat sites. Each survey comprised of a 20 minute (minimum) census of birds within an undefined 2 ha area, which is the standard method used by Birds Australia for the Bird Atlas project. Birds detected visually (using binoculars) and/or aurally over a 20 minute period were recorded. Numbers of each species observed were also recorded.

All systematic bird surveys were undertaken within four hours of dawn or two hours of dusk, as these are the times of day when birds are most active. In addition to systematic surveys, observations of birds were also made opportunistically.

Camera traps

Motion sensor cameras (Reconyx-Hyperfire) were deployed for a period of at least eight to 25 nights at selected intervals over the survey area. Camera locations were selected to target areas where potential significant species might be recorded i.e. hollow logs with evidence of use. Cameras were baited with sardines to attract fauna species within the survey area. For each camera location the time and date deployed and recovered, and the GPS coordinates were recorded. Camera locations are presented in Table 3 and illustrated in Figure 3 in Appendix A. Data from the cameras were downloaded onto a computer and analysed for the presence of fauna following the field survey.

Table 3 Camera trap locations 2018

Camera number	Habitat type	Location		Nights deployed
		Easting	Northing	
77	Casuarina and Jam Shrubland	116.04526	-30.49533	23
43	Mixed Shrubs on small Quartzite hill	116.05244	-30.49369	25
44	Mixed Shrubs on small Quartzite hill	116.05444	-30.49554	25
45	Casuarina and Jam on Quartzite hill	116.05470	-30.49898	25
41	Casuarina and Jam on Quartzite hill	116.05060	-30.50073	25
GG	Exposed Quartzite ridgeline	116.04904	-30.49876	25
30	Mixed Shrubs on small Quartzite hill	116.04716	-30.49035	25
2	Casuarina and Jam on Quartzite hill	116.04904	-30.48932	25
42	Mixed Shrubs on small Quartzite hill	116.05024	-30.48608	25
77 dam	Banks of small water body	116.04124	-30.50270	8
Total				**231**

Bat Surveys

Bat Detectors (SM2 and SM4 Songmeters) were deployed for a period of 1 - 2 nights at each quadrat with additional assessments undertaken in heavily wooded areas. Bat detectors were positioned in areas where bat species might be recorded (i.e. utilising water bodies, flyways or caves). Bat detectors were set to record from 25 minutes pre-dusk to 25 minutes post-dawn. For each detector, the time and date deployed and recovered, and the GPS coordinates were recorded. Bat detector locations are shown in Table 4 and mapped in Figure 3 in Appendix A.

Data from the bat detectors were downloaded onto a computer and analysed for the presence of bats following the field survey. Data from the detectors were assessed by Glen Gaikhorst and verified by Craig Grabham.

Table 4 Bat Detector locations 2018

Bat detector number	Habitat type	Location		Nights deployed
		Easting	Northing	
Site 1	Mixed Shrubs on small Quartzite hill	116.05178	-30.49076	1
Site 2	Mixed Shrubs on small Quartzite hill	116.05111	-30.49640	2
Site 3	Casuarina and Jam Shrubland	116.05173	-30.49947	1
Site 4	Mixed Shrubs on small Quartzite hill	116.04905	-30.49301	2
Site 5	Eucalyptus Low Woodland	116.04697	-30.49337	1
Site 6	Quartzite Ridgeline	116.04735	-30.49859	1
Regional	Mixed Shrubs on small Quartzite hill	116.04527	-30.48497	1
Total				**9**

2.3 Other searches

Threatened and Priority species may have a patchy, disparate distribution through landscapes. To provide the best opportunity to determine the presence and relative prevalence of these species, this study employed a variety of sampling methods. The systematic sampling was applied throughout the trapping program with additional sampling methods also applied at these sites. Furthermore, other areas that were not assessed through the systematic trapping effort were also surveyed using non-systematic techniques including those mentioned below.

2.3.1 Active search

Active searching was undertaken to detect amphibians, reptiles, mammals and birds. Surveys comprised of searching the ground layer (overturning logs, rocks and leaf litter) and low vegetation (under bark and in tree stumps) and recording all individuals observed. Species presence was also determined via secondary evidence, in the form of scats, tracks, feathers, burrows and remains. Each trapping site was surveyed for a minimum of one hour including the general area around it. An additional eight active search sites within the survey area were searched using this method and locations for these are presented in Table 6 and Figure 3 in Appendix A.

2.3.2 Nocturnal searching

Spot lighting was undertaken to locate nocturnal species that may otherwise remain unrecorded using other survey techniques. Handheld or head mounted spotlights were used for a minimum of one hour at each trapping line and within the general area.

2.3.3 Opportunistic observations

Opportunistic observations involve the recording of fauna taxa (physical presence and/or signs of presence) spatially throughout the survey area. Opportunistic observations include physical observations (sighting or hearing fauna), and indirect evidence (scats, tracks, diggings, nests, feathers, bones, pellets) which indicate the current or recent activity of a species. Wherever possible, numbers of individuals, microhabitat use and other relevant information was recorded. Opportunistic observations were recorded outside of the diurnal, nocturnal or general trap site surveys (for example when driving, walking to sites, checking camera traps and bat detectors).

2.3.4 Targeted searches

Malleefowl (*Leipoa ocellata*)

The survey area was searched by opportunistic observations to identify Malleefowl mounds, digs, prints and scats. While this was primarily designed to assess for the presence of Malleefowl, all species observed were recorded opportunistically.

Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)

Carnaby's Black Cockatoo were surveyed across the survey area to identify feeding evidence, potential and actual Black Cockatoo trees, roosting and evidence of use by Black Cockatoos. The aim of the 2018 survey was to detect the presence/use of Carnaby's Black Cockatoo however other species observed were recorded opportunistically. It should be noted that this assessment excludes the identification of individual trees within the required diameter at breast high (DBH) criteria, and instead a tree plot based count was adopted. Twelve plots were undertaken measuring 50 metre (m) x 50 m in size. All trees of a suitable size (DBH >300 mm) were recorded within each plot. The locations of the tree plots are listed in Table 5 and presented on Figure 3 in Appendix A. This assessment can therefore be used to estimate the number of potential breeding trees per hectare. Significant habitat such as foraging or potential breeding (trees recorded with hollows) were recorded individually and are mapped on Figure 5 in Appendix A.

Table 5 Black Cockatoo Tree plots 2018

Tree Plot	Location	
	Easting	Northing
Tree Plot 1	116.03999	-30.49879
Tree Plot 2	116.04132	-30.50111
Tree Plot 3	116.04119	-30.50201
Tree Plot 4	116.04482	-30.49132
Tree Plot 5	116.04279	-30.48612
Tree Plot 6	116.04515	-30.48328

Tree Plot	Location	
	Easting	Northing
Tree Plot 7	116.04934	-30.50172
Tree Plot 8	116.05028	-30.50473
Tree Plot 9	116.03708	-30.50446
Tree Plot 10	116.03172	-30.50272
Tree Plot 11	116.03187	-30.50166
Tree Plot 12	116.03128	-30.50520

2024 Black Cockatoo assessment

During the the 2024 survey, Carnaby's Black Cockatoo were surveyed across the defined area to identify feeding evidence, potential and actual Black Cockatoo trees, roosting and evidence of use by Black Cockatoos. The aim of this survey is to detect the presence/use of the area by Carnaby's Black Cockatoo. The total hectares of potential Carnaby's Black Cockatoo foraging vegetation was calculated by the total amount of hectares within the foraging range of 5-8 based on the vegetation alliances for the area.

To determine if the vegetation within the survey area constitutes foraging habitat for black cockatoos as specified under the Referral Guidelines (DAWE 2022), the flora were identified and compared with a list of known foraging species (Valentine and Stock 2008). In addition, the ground was searched for any evidence of black cockatoo foraging.

Information gathered on foraging habitat in the field was then used in the scoring tool in Table A1 of the Referral Guidelines (DAWE 2022). A foraging score was calculated (out of 10) for the quality of the habitat. The following information was required to undertake the foraging habitat assessment using the scoring tool:

– Known usage (evidence of foraging or observations of foraging)
– Proximity to roosting or nesting areas – DBCA spatial data (GoWA 2023)
– Amount of foraging habitat within the local region
– Vegetation type, especially high priority food species such as Banksia, Eucalyptus and Hakea.

The breakdown of Carnaby's Black Cockatoo foraging scores can be seen in Table 19.

2.4 Survey effort

Survey effort is described as the amount and type of survey that is undertaken during an assessment. The type of survey and amount of time spent on each survey for this Level 2 fauna assessment is provided in Table 6. Each trapping site was sampled over seven (minimum) consecutive trap-nights. Additionally each site underwent two (minimum) nights of bat acoustics monitoring, and at least 60 minutes of nocturnal searches, active searches and bird surveys.The total trapping effort consisted of 1,260 trap-nights (total trap effort), 520 minutes of bird assessments, 1,080 minutes of active searches, 390 minutes of night searches, nine nights of bat detection and 231 camera deployment nights. Table 6 shows the survey effort undertaken for this project.

The additional Black Cockatoo assessment conducted by GHD in 2024 surveyed the areas utilising transect lines across four consecutive days.

Table 6 Fauna survey effort 2018

Fauna Tapping				Elliot traps		Pit Traps		Cage Traps		Funnel traps		Bat Detector	Bird search	Active search	Night search
Sites	**Easting**	**Northing**	**Nights Open**		**trap nights**		**trap nights**		**trap nights**		**trap nights**	**trap nights**	**minutes**		
Site 1	116.05223	-30.49192	7	10	70	6	42	2	14	10	70	1	60	60	60
Site 2	116.05083	-30.49653	7	10	70	6	42	2	14	10	70	2	60	60	60
Site 3	116.05135	-30.49940	7	10	70	6	42	2	14	10	70	1	60	100	60
Site 4	116.04805	-30.49306	7	10	70	6	42	2	14	10	70	2	60	60	60
Site 5	116.04702	-30.49304	7	10	70	6	42	2	14	12	84	1	60	60	60
Site 6	116.04750	-30.49861	7	10	70	0	0	2	14	12	84	1	60	80	60
Cage line	116.05076	-30.49531	7	0	0	0	0	14	98			1			30
Active search 1	116.04153	-30.50176											20	60	
Active search 2	116.04960	-30.50226											20	80	
Active search 3	116.05044	-30.48568											20	120	
Active search 4	116.04983	-30.49315											20	60	
Active search 5	116.04901	-30.49003											20	60	
Active search 6	116.04492	-30.48484											20	60	
Active search 7	116.04364	-30.49322											20	60	
Active search 8	116.04443	-30.49582											20	60	
Total			**42**		**420**		**210**		**182**		**448**	**9**	**520**	**1,080**	**390**

2.5 Fauna survey limitations

Technical Guidance Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA 2020) states that fauna and faunal assemblage survey reports for environmental impact assessment in WA should contain a section describing the limitations of the survey methods used. The limitations and constraints associated with the fauna component of the 2018 field survey are discussed in Table 7 and the 2024 targeted survey is outlined in Table 8.

Table 7 Fauna survey limitations 2018

Limitations	Constraints	Impact on Survey outcomes
Scope (what faunal groups weresampled and were some sampling methods not able to be employed because of constraints such as weather conditions, e.g. pitfall trapping inwaterlogged soils or inability to use pitfall traps because ofrocky terrain)	Nil	All fauna groups were able to be sampledwith no constraints. The survey team was able to sink pit traps at all sites except site6 which was solid rock. This site received the remainder of the trap design.
Proportion of fauna identified, recorded and/or collected	Nil	All fauna was identified and released on site.
Proportion of the task achieved and further work which might beneeded.	Nil	All tasks were achieved from the survey, additional Black Cockatoo monitoring/datamay be required in the future if Wandoo areas are impacted by future works.
Remoteness and/or access problems	Minor	There were no issues with remoteness asthe survey area is located within an agricultural area. Most areas of the surveyarea were able to be accessed during the surveys.

Table 8 Black Cockatoo assessment survey limitations 2024

Limitations	Constraints	Impact on Survey outcomes
Seasonal timing of Black Cockatoo assessment	Minor	While Black Cockatoo foraging evidence was recorded on *Banksia sessilis* within the survey area, it was old clippings and feeding observed. *Banksia sessilis* flowers between July-November meaning all observed foraging points were from the 2023 flowering season.
Utilising Trudgen 2012 ‘Vegetation Type” data set to establish GHD 2024 Black Cockatoo foraging score	Minor	Using the Trudgen 2012 data set to create a Black Cockatoo foraging score has the potential to create discrepancies as the 2012 data may be out of date in terms of condition of vegetation.

3. Desktop assessment

3.1 Previous studies

A review of the previous fauna assessments undertaken within the survey area is presented in Table 9.

Table 9 Previous fauna site investigations

Project	Location and key findings	Location and relevance to this survey area
Vertebrate Fauna of the Simcoa Operations Pty Ltd Moora Mine (Western Ridge) (Bamford Consulting Ecologists and Western Wildlife Ecological Consultants 2001).	This study involved a vertebrate fauna desktop search and brief site inspection. The site inspection occurred on the SIMCOA mining lease approximately 15 km north of Moora. The inspection covered three areas: Western Ridge, Eastern Ridge and Cairn Hill. The final species list included 11 species of frogs, 66 species of reptiles, 96 species of birds and 25 species of mammals (5 of which are introduced) which are either known or thought to potentially occur within the area. No conservation significant species were identified during the brief site inspection; however 12 conservation species were identified to potentially occur around the site.	The three sites inspected in the assessment were proposed mining areas at the time of the inspection. While no map was provided, both the inspected sites and the Proposed Mine that is the focus of this study are located approximately 15 km north of Moora and can be presumed to be either in close proximity to one another or potentially overlap survey areas.

3.2 Climate

The survey area is located within the Avon Wheatbelt subregion of WA. The climate of this region is classified as semi-arid (dry), warm Mediterranean. The closest current weather station to the site is in Badgingarra Research Station (Station ID: 009037) located approximately 56 km northwest of Moora town site. Climate data from this station indicates:

– Mean maximum temperature ranges from 17.5°C in July to 34.7°C in February
– Mean minimum temperature ranges from 7.1°C in August to 17.8°C in February
– Mean annual rainfall is 480.8 millimetres (mm) with an average of 92.8 rain days per year (WeatherZone 2018).

The weather conditions over the survey period are presented in Table 10. The site conditions were dry and warm during the survey.

Table 10 Weather data for survey period 9 - 19 October 2018

Date	Min temp (°C)	Max temp (°C)	Rainfall (mm)
19/11/18	-	23.2	-
20/11/18	8.4	24.9	-
21/11/18	10.8	28.7	0.0
22/11/18	15.0	34.1	0.0
23/11/18	11.5	25.0	0.0
24/11/18	8.8	25.9	0.0
25/11/18	5.1	24.0	0.0
26/11/18	8.0	24.6	0.0
27/11/18	9.7	29.5	0.0

Date	Min temp (°C)	Max temp (°C)	Rainfall (mm)
28/11/18	11.4	31.3	0.0
29/11/18	12.2	28.4	0.0
30/11/18	12.0	28.4	0.0

The weather conditions over the 2024 survey period are presented in Table 11. The site conditions were dry and warm during the survey.

Table 11 Weather data for survey period 9 - 12 April 2024

Date	Min temp (°C)	Max temp (°C)	Rainfall (mm)
9/04/24	15.5	29.2	0.0
10/04/24	15.8	28.4	0.0
11/04/24	16.0	29.5	0.0
12/04/24	15.3	27.8	0.0

3.3 Regional biogeography

The survey area is situated in the South-West Botanical Province (Beard and Burns 1976), or the Interim Biogeographic Regionalisation of Australia (IBRA) of the Avon Botanical District. The survey area lies within the Avon Wheatbelt bioregion (Thackway *et al*. 1995).

3.4 Geology and soils

3.4.1 Geology

The dominant rocks of the survey area belong to the Middle Proterozoic Moora Group. These are sedimentary rocks, which are separated from the Archaean rocks of the Darling Plateau by a series of poorly defined faults (Griffin 1992).

The survey area is located within the Noondine Chert stratigraphic unit. The Noondine Chert Formation (originally Coomberdale Chert), which outcrops frequently in the survey area, is a part of the Coomberdale Subgroup of the Moora Group. "It consists of bedded chert, chert breccia, orthoquartzite, silicified limestone and dolomite and contains significant siliceous siltstone and sandstone beds, and minor claystone." (Carter and Lipple 1982).

3.4.2 Land systems, landforms and soil

The survey area sits on a narrow and discontinuous series of low Chert hills that are formed from the higher (and presumably more resistant to erosion) parts of the Noondine Chert Formation. Two land systems of the Moora group are present and include the Coorow and Coomberdale Landscape (both Chert subsystems) (Geological Survey of Western Australia 2001).

The soils on the chert ridges vary in depth from skeletal on the blocky outcropping chert, to gravelly, loamy sands lower down the slopes (Griffin, 1992). The surface soil was often pale grey, silty, fine sand. Sands in the valleys consist of more clay and eroded rock material (Trudgen *et al*. 2012)

3.5 Land use

There are no DBCA managed lands located within the Proposed Mine. There are three DBCA managed lands within a 20 km radius of the Proposed Mine boundary, with the nearest being Cairn Hill Nature Reserve, a Class A nature reserve located approximately 1.27 km to the south. Table 12 displays DBCA managed lands within a 20 km buffer of the survey area.

Table 12 DBCA managed lands within 20 km of the survey area

ID	Classification	Name	Distance from survey area boundary
R 47694	Class A Nature Reserve	Cairn Hill Nature Reserve	1.27 km south
R 28674	Class A Nature Reserve	Manaling Nature Reserve	10.9 km north-west
R 23316	Class A Nature Reserve	Namban Nature Reserve	13.6 km north-west

The 2024 survey area includes Cairn Hill Nature Reserve which is a DBCA managed A class reserve.

3.6 Vegetation

The vegetation for the survey area has been assessed and mapped and can be viewed in GHD and Trudgen 2024.

3.7 Fauna diversity

The *NatureMap* database identified 204 vertebrate fauna taxa previously recorded within 20 km of the survey area (DBCA 2018). This total included seven amphibians, 157 birds, one fish, 8 mammals and 31 reptiles. Of the total number of vertebrates present, three are feral species.

The complete list from the *NatureMap* search can be seen in Appendix C.

3.8 Conservation significant fauna

Searches of the EPBC Act PMST (DEE 2018), DBCA and *NatureMap* database (DBCA 2007) identified the presence/potential presence of 15 conservation significant fauna species (refer to Appendix C). Species identified by the PMST as marine and migratory marine were excluded from this assessment as no marine habitats were present within or nearby the survey area. However, species identified by the PMST as migratory terrestrial/wetland were considered as part of this assessment.

4. Results

4.1 Fauna habitats

There were six broad habitat types recorded in the survey area during the field survey. These different habitat types are closely aligned with the different vegetation types and landforms within the survey area. The habitat types recorded in the survey area are described in Table 13 and mapped in Figure 4 in Appendix A. The six broad fauna habitat types are:

– Wandoo Woodland
– Kyaka Brook - Riparian / Dam / small water body
– Mallee Woodland
– Mixed Shrublands on Low hills
– Quartzite Outcropping formations
– Disturbed areas.

4.1.1 Fauna habitat linkages

The fauna habitat available in the survey area is locally and regionally fragmented. Locally, much of the survey area has been cleared or altered. Patches of native vegetation mostly occur on low hill tops where the soils are too rocky for agricultural purposes. Between hills, the vegetation has been cleared and comprises pasture or cropping areas. The hill tops provide islands of vegetation for species to persist and are loosely connected to adjacent areas north and south of similar habitats.

With approximately 90% of the landscape cleared in the Shire of Moora for agricultural purposes, there is little habitat remaining for fauna species. There are three reserves within the Shire with the closest approximately 4 km away.

Some habitat areas are present to the west and northwest of the survey area that consist of a mosaic of drainage areas including salt lakes and adjoining habitat. However, broadacre agricultural land is established between these sites. Groups such as avian species are most likely to benefit from these habitats provided they are able to move across the landscape. Small sedentary species which are able to utilise the remaining habitat may also persist.

4.1.2 Quality of habitat

The quality of the fauna habitats has been affected by the impacts described above Section 4.1.1. Whilst the vegetation was mostly intact on the hills, the impact of fragmentation and grazing in some environments was evident, particularly the fringing shrublands, however generally the mapped habitats were in poor to good condition. With this in mind, the overall quality of the remainder of the survey area is in degraded condition (due to clearing or over grazing).

The survey results (i.e. species recorded) identified that the micro habitats within the environments played a significant part in the species present. Species that can persist or utilise very hard substrates were present. This environmental structure reduced the opportunity for specialised or digging species to hide or create refugia and therefore reducing the species present.

Where woodland areas persisted the micro habitats available provide high quality resources for a diverse suite of fauna particularly reptiles, bats, birds and mammals. This environment supported numerous woodland species such as Black-headed Monitor, Common Brushtail Possum and numerous Bat species. Wandoo (*Eucalyptus wandoo*) recorded provides known breeding environments for Carnaby's Black Cockatoo. The Common Brushtail Possum record would be considered regionally significant (although not conservation listed) due to the species being patchily distributed through the northern wheatbelt region.

4.1.3 Habitat Scatter Plot

The similarity between sites based on the GHD trapping data was examined using PRIMER. The cluster analysis (Chart 1) and resulting dendrogram (Chart 2) showed that according to the species recorded the habitat surveyed demonstrate uniqueness in the species recorded and demonstrate isolating or clustering. This is particularly the case for the Mixed Shrublands where 3 (Sites 1, 2, 3) of the four sites are tightly clustered with one outlier (Site 4). The Mallee Woodland and Quartzite Outcropping sites lack of species recorded looks to have isolated apart from the remaining quadrats.

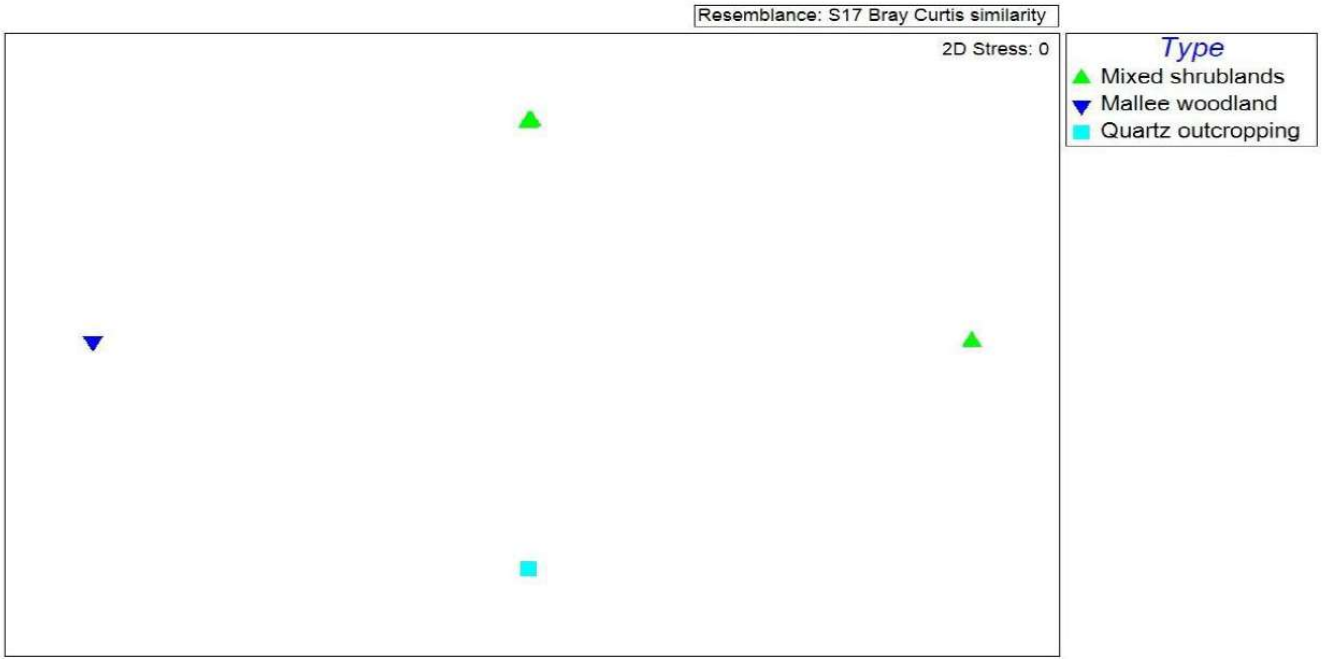


Chart 1 *Cluster Analysis for Trap Data*

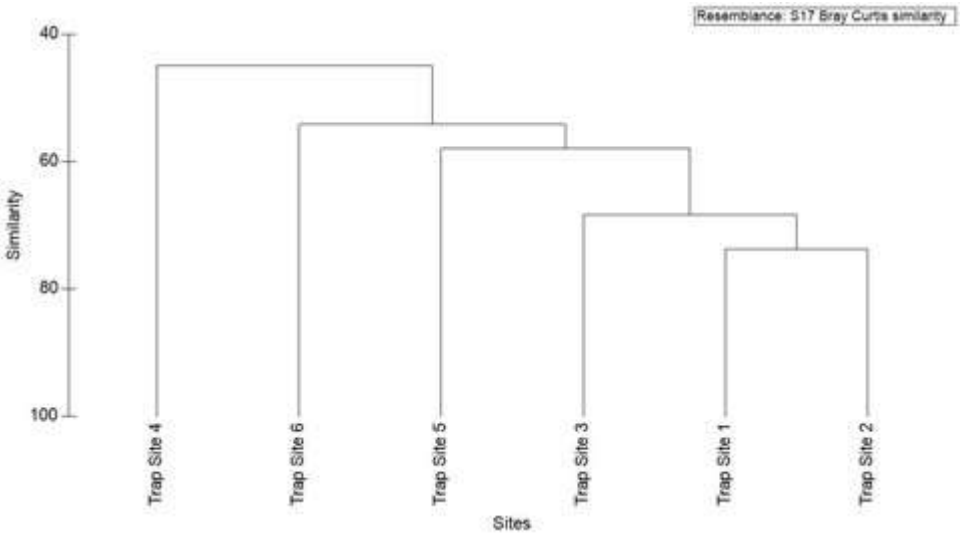


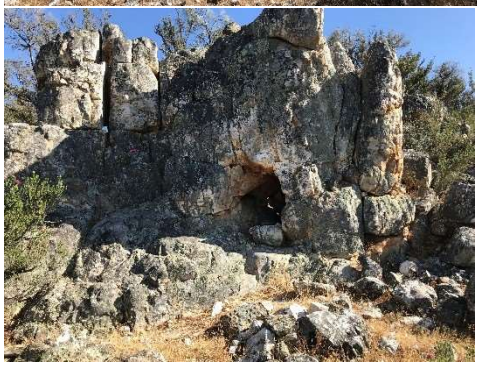
Chart 2 *Dendrogram of Similarity of Trapping Data*

Table 13 Major habitat types within the 2018 survey area

Description	Extent in the Survey area	Representative Images
Wandoo Woodland This habitat type occurs in a small portion of the survey area in the rail corridor along the western edge of the survey area. This habitat is dominated by Wandoo (*Eucalyptus wandoo*) with a mixed understorey of *Dodonaea* sp. *Acacia* sp, chenopods and low shrubs and herbs. The overstorey consist of open woodland of Wandoo trees (DBH >300 mm) at a density of approximately 7 trees per 50 x 50 m quadrat. These trees were often large (to 2 m) and provided small, medium and large hollows. Large hollows were present in approximately 1 trees per 50 x 50 m quadrat (based on stem density counts of trees with DBH > 300 mm). The shrub/midstorey layer was sparse but sometimes moderate to dense in small patches and consisted of Acacia, Dodonaea and chenopod species. The soils consisted of brown clay loam with small areas of gravel incursion. The majority of the Wandoo Woodland area appeared long unburnt (>20 years) given the lack of historical fire scar evidence. The woodland provides good denning and breeding opportunities for small native ground mammals, birds and reptiles. Seven species of bird were recorded nesting in this habitat. The Ringneck Parrot (*Barnardius zonarius*), Tree Martins (*Petrochelidon nigricans*), Galah (*Eolophus roseicapilla*) and Pied Butcherbird (*Cracticus nigrogularis*). Animal tracks, digs and occasional small burrows were recorded in this habitat type. Fallen branches and logs were common in this habitat type with many having a range of hollow sizes. The persistence of logs is probably an artefact of the lack of fire history. Leaf-litter and other forms of non-vascular ground cover (dead plant material) was common beneath trees and shrubs. **Conservation significant fauna** Part of a larger linear corridor of contiguous remnant vegetation along the Midlands Road extending throughout the very western edge of the survey area. This habitat provides breeding, foraging and roosting habitat for Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*). The Peregrine Falcon (*Falco peregrinus*) may also utilise selected hollows for breeding but would also utilise the area for hunting and loafing. **High Value**	1.38 ha	
Kyaka Brook - Riparian/Dam *Eucalyptus wandoo* and/ or *E. loxophleba* woodland along Kyaka Brook over mixed introduced grasses and herbs. *Allocasuarina huegeliana* is present surrounding the small dam. An ephemeral brook/drainage line that runs from the south western corner of the survey area east and crosses Kiaka Road outside of the survey area. A small dam is positioned just north of the brook in the low lying section of the paddock. Flow from the dam would intersect to brook. The main drainage line follows the gradient of the survey area, generally flowing from east to west. The creek and other small ephemeral drainage lines supports generally narrow, linear woodlands and was more structurally diverse than the surrounding habitats (which is primarily shrublands). The vegetation along these drainage lines is dominated by *Eucalyptus wandoo* and *E. loxophleba* and mixed scattered shrubs. The understorey consist of introduced herbs and grasses and was mostly	11.04 ha	

Description	Extent in the Survey area	Representative Images
degraded. Areas had some litter and debris present including large branches and logs creating numerous usable habitat options for fauna species. The drainage lines have a mosaic of substrates with a complex and variable mix of rocky, stony and sandy profiles. The substrates would vary and erode in response to rainfall and flooding. There was no evidence of fire in this habitat. These linear patches of habitat provide a corridor for the movement of fauna through the local landscape. Small birds would utilise this denser vegetation for foraging, movement and nesting. **Conservation significant fauna** The increased structural diversity and substrate variation in this environment is likely to support a broader suit of fauna species than the surrounding habitat types. Additionally, these drainage lines would be utilised as corridors for species. The Carnaby's Black Cockatoo may utilise the Wandoo habitat for breeding purposes where hollows are available and where adequate foraging habitat located in proximity to wandoo. The Peregrine Falcon would utilise these well vegetated corridors for hunting/foraging. **High Value**		
Mallee Woodland Mallee Woodland of *Eucalyptus loxophleba* over scattered shrubs and very open herb and grass lands in fine sandy soils. The Mallee Woodland compiled a series of very small remnant areas throughout the survey area. The woodland comprised fine sands over a deeper layer of heavy loams. The dominant plant species were *Acacia* and *Dodonaea* with herbs and grasses. The main areas of mallee woodlands were located in the mid to lower slopes of the survey area and mostly cleared due to this habitat being aligned to desirable agricultural soils. It was also evident that cattle highly utilised these areas for shade and cover due to the grazing (showing signs of heavy grazing, soil compaction and trampling) noticeably impacted the ground layer. The Mallee Woodland had very little sign of fauna activity (which is represented in trapping site 5 data) but is probably an artefact of the small habitat areas remaining and the high impact and use by agricultural species. However bats and other small hollow utilising species were present in this habitat. **Conservation significant fauna** The Mallee Woodlands present in the survey area appeared not to produce large hollows for species like Carnaby's Black Cockatoo. However, could be utilised for roosting as required. The Peregrine Falcon would utilise these areas for hunting/foraging. **Moderate Value**	11.12 ha	

Description	Extent in the Survey area	Representative Images
Mixed shrublands on low hills Mixed Shrublands of *Acacia*, *Banksia*, *Regelia*, *Kunzia*, *Allocasuarina*, *Hibbertia*, *Xanthorrhoea* and *Melaleuca* on rocky low hills The Mixed Shrublands vary in composition of species and quality according to historical disturbances and location in the environment. The mixed Shrublands has areas of singular species dominance such as *Allocasurina* and *Banksia sessilis*, however these areas were relatively small. The patches of vegetation where fencing is not present show signs of edge or fringe effect from grazing, however outside of these are generally in good conditions. Some portions of the mixed shrubland such as those in the north eastern section of the survey area are quite degraded and open, and likely historically cleared. This habitat was diverse in structure and was evidently sculptured by the base rock ultimately forming the low hills. Some areas were exposed rock while others heavy rocky loam. There were high points in the environment and areas where water ran or temporarily pooled. The environment had areas of good ground covers, litter, small logs or debris. There was no evidence of fire in this environment. This habitat would provide a variety of habitat resources for fauna species, and patches had a greater structural diversity than the surrounding shrublands. The lack of sandy soils was evident in the fauna assemblages trapped during the programs. This was particularly evident by the paucity of burrowing species trapped. No Striped skink (*Ctenotus* sp.) or Gould's monitors (*Varanus gouldii*) were recorded during the survey which would typically be represented. **Conservation significant fauna** The Banksia sessilis present in this habitat was recorded to be highly utilised by Carnaby's Black Cockatoo as a foraging species. Twenty-nine individuals of Carnaby's Black Cockatoo were recorded within the survey area foraging on this species. The Peregrine Falcon would utilise these well vegetated corridors for hunting/foraging. **High Value**	175.01 ha	 

Description	Extent in the Survey area	Representative Images
Quartzite Outcropping formations Mixed Shrublands of *Acacia*, *Banksia*, *Regelia*, *Kunzia* and *Allocasuarina,* amongst quartzite outcropping Quartzite outcrops occurred in two small areas of the survey area. The formations are usually associated with low vegetation types due to the shallow soils and comprise *Acacia*, *Banksia*, *Regelia*, *Kunzia* and *Allocasuarina* and an abundance of grasses and herbs. The environment had areas of good ground covers, litter and debris but lacked logs due to vegetation present. However, the outcropping with exfoliating rock, crevices and slabbing provides excellent cover for a range of fauna species. There was no evidence of fire in this habitat. The Common Wallaroo appears to be the most common mammal to frequent or reside in this habitat type. Cracks and ledges formed in the granite and its loose stones provide a majority of the habitat for reptiles and small mammals to hide. The small caves may provide refugia for bat species. **Conservation significant fauna** The Banksia sessilis present in this habitat was recorded to be highly utilised by Carnaby's Black Cockatoo as a foraging species. The Peregrine Falcon would utilise these well vegetated corridors for hunting/foraging. **High Value**	4.02 ha	 
Disturbed areas Vast areas of the survey area had previously been cleared for agriculture, tracks, mines and old fence lines. These areas provide very little habitat value to fauna species.	269.09 ha	

4.2 Fauna diversity

The November (Level 2) 2018 fauna surveys recorded 97 vertebrate fauna species utilising the survey area, including 16 mammals, 63 birds and 18 reptiles. The compiled species list can be found in Table 20 in Appendix D. A breakdown of the fauna assemblages for the 2018 survey results is provided below.

4.2.1 Mammals

The surveys recorded 16 mammal species within the survey area, including five introduced and 11 native mammals. The composition of native species includes six bats, two macropod, a small dasyurid, Possum, Echidna and five introduced mammals. The most specious family was the microchiropteran Vespertilion bats (4 species), macropods (two species), Molossid bats (two species), with dasyurid, Bovid, canid, felid, Murid, Phalangerid and Tachyglossid each having a single species. Two hundred and twenty-seven individual mammals (excluding feral species and bats) were recorded over the trapping program between five species, with the most abundant being the Western Grey Kangaroo and Common Wallaroo. Two hundred and fourteen Western Grey Kangaroo sightings were recorded (94% of total native mammal recordings) with eight Common Wallaroo (3.5% of total native mammal recordings).

Bats were only recorded via echolocation, therefore only presence or absence information could be collected. Some species overlap in call identification and therefore may represent multiple species (such as in the *Nyctophilus* group). In any case, in this region there are no species of conservation significance. A breakdown of mammal families recorded during the surveys is provided in Table 14.

Table 14 Mammal families recorded during the 2018 field surveys

Mammal Family	No. of species
Bovidae (Ruminants)	1
Canidae (Dog)	1
Dasyuridae (Dunnarts)	1
Felidae (Cat)	1
Leporidae (Rabbit)	1
Molossidae (Freetail Bats)	2
Muridae (Rodents)	1
Macropodidae (Kangaroos)	2
Phalangeridae	1
Tachyglossidae (Echidna)	1
Vespertilionidae (Bats)	4
Total	**16**

4.2.2 Birds

The bird surveys (from the Level 2) identified 63 bird species from 32 families. The most specious families were the *Meliphagidae* (eight species), *Cacatuidae* (five species) and *Acanthizidae* (five species). Seven hundred and eighty eight individual bird sightings were recorded over the trapping program. The most abundant species were the Galah with 81 records (10% of total bird recordings), Weebills with 73 records (9.3% of total bird recordings), Yellow-rumped Thornbill with 39 records (4.9% of total bird records) and Australian Magpie with 35 records (4.4% of total bird recordings). A breakdown of bird families recorded during the survey is provided in Table 15.

Table 15 Bird families recorded during field surveys

Bird Family	No. of species
Accanthizidae (Weebill/Gerygone)	5
Accipitridae (Diurnal birds of prey)	3
Anatidae (Ducks)	1
Ardeidae (Heron)	2
Artamidae (Magpie group)	4
Cacatuidae (Cockatoo group)	5
Campephagidae (Cuckoo-shrikes)	2
Casuariidae (Emu)	1
Columbidae (Doves)	2
Corvidae (Crow)	1
Cuculidae (Cuckoos)	1
Falconidae (Falcons)	3
Halcyonidae (Kingfishers)	2
Hirundinidae (Swallows)	2
Maluridae (Wrens)	2
Megaluridae (Songlarks)	2
Meliphagidae (Honeyeaters)	8
Meropidae (Bee eater)	1
Monarchidae (Lark)	1
Motacillidae (Pipit)	1
Nectariniidae (Mistletoebird)	1
Neosittidae (Sittella)	1
Pachycephalidae (Whistlers)	2
Pardalotidae (Pardalote)	1
Petroicidae (Robin)	1
Phasianidae (Quail)	1
Pomatostomidae (Babblers)	1
Psittacidae (Parrots)	2
Rhipiduridae (Fantail)	1
Strigidae (Boobook)	1
Timaliidae (Silvereye)	1
Turnicidae (Button Quail)	1
Total	**63**

4.2.3 Reptiles

A total of 18 reptile species were recorded during the 2018 field surveys from eight families. The most specious families were Elapidae (5 species) and Scincidae (4 species). One hundred and sixty four reptiles were recorded in the survey area over the trapping program. The most abundant species were Tree Dtella with 55 records (34% of total reptile recordings), Common dwarf Skink with 29 records (18% of total reptile recordings) and Bobtail with 21 records (13% of total reptile recordings). A breakdown of reptile families recorded during the survey is provided in Table 16.

Table 16 Reptile families recorded during the 2018 field surveys

Reptile Family	No. of species
Agamidae (Dragons)	2
Diplodactylidae (Geckos)	1
Elapidae (Snakes)	5
Gekkonidae (Geckos)	2
Pygopodidae (Legless Lizards)	2
Scincidae (Skinks)	4
Typhlopidae (Blind Snakes)	1
Varanidae (Monitors)	1
Total	**18**

4.2.4 Introduced Species

Mammals comprised the only group in which introduced fauna were recorded. In total five species were observed and included:

– Sheep (*Ovis aries*)
– Red Fox (*Vulpes vulpes*)
– Cat (*Felis catus*)
– European Rabbit (*Oryctolagus cuniculus*)
– House Mouse (*Mus musculus*)
– Goat (*Capra aegagrus hircus*)
– Cow (*Bos taurus*)

The Sheep, cows and goats are managed fauna by the property owners, while the remaining species are considered feral fauna species to the region.

4.3 Conservation Significant Fauna

One conservation significant fauna species was recorded within the survey area during the 2018 field survey, this was:

– Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) – listed under Schedule 2 (Endangered) under the State BC Act and Endangered under the Commonwealth EPBC Act.

4.3.1 Likelihood of occurrence assessment

In addition to the field survey results, an assessment on the likelihood of conservation significant species occurring in the survey area was undertaken. This assessment is based on species' biology, habitat requirements, the quality and availability of suitable habitat as determined during the field survey, and records of the species in the survey area and locality. Species- specific searches of the DBCA *NatureMap* database with a buffer radius of 20 km were also conducted in order to gather information about the broader regional occurrence of species to further inform the likelihood of occurrence assessment. Some species identified in the Protected Matters Search tool are not realistically considered to occur in the survey area or are not terrestrial vertebrate species and have been excluded from the assessment.

In total 19 species (2 mammals, 1 freshwater fish, 1 reptile and 15 birds) were recorded from desktop assessment as potentially occurring in the survey area. Of these only two were recorded or are likely to utilise the habitats present in the survey area. Table 17 summarises the species of conservation significance that are either known or considered likely to occur in the survey area. A brief description of these species and their associated habitat types within the survey area are described below. The parameters of assessment for this likelihood of occurrence assessment and the full likelihood of occurrence assessment are provided in Appendix D.

Table 17 Summary of likelihood of occurrence assessment for conservation significant fauna species deemed known or likely to occur

Species	EPBC Act	WC Act/ DPaW	Assessment outcome
Birds			
Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)	En	En	**Known.** The species was recorded in the surveyarea and feeding observations were recorded throughout the survey area.
Peregrine Falcon (*Falco peregrinus*)	-	OS	**Likely.** The species is known from the region, however use would be opportunistic and utilisedfor foraging purposes only. No breeding habitat is present in the survey area.

Key – OS = Other Species Protection, Special Protection under BC Act. En= Endangered, Endangered under BC and EPBC Acts.

4.3.2 Fauna species recorded in the survey area

4.3.2.1 Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)

Carnaby's Black Cockatoo is endemic to the south-west of Western Australia with a wide- spread distribution. Carnaby's Black Cockatoo nest in hollows of live or dead eucalypts, primarily smooth-barked Salmon Gum and Wandoo (Saunders 1979, 1982) though breeding has been reported in other wheatbelt tree species and some tree species on the Swan Coastal Plain and jarrah forest (Saunders 1979, 1982; Storr 1991; Johnstone and Storr 2004). Success in breeding is dependent on the quality and proximity of feeding habitat within 12 km of nesting sites (Saunders 1977, 1986; Saunders and Ingram 1987). Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's Black Cockatoo is a critical requirement for the conservation of the species.

At least 29 Carnaby's Black Cockatoo individuals were recorded during the 2018 survey, flying and foraging across the survey area. The largest group recorded was nine birds with the smallest, three. The locations the birds were observed is shown in Figure 5 of Appendix A. No roosting areas were recorded in the survey area and none would be expected in the south western corner of the survey area (where the only large/tallest trees are present). The remaining vegetation present is not suitable for roosting.

Carnaby's Black Cockatoo are known to utilise habitat within the survey area and feeding evidence was recorded from across the site. Evidence was represented by old and fresh chewed Banksia sessilis, in particular snipped branches on the ground. Some examples of *B.sessilis* identified as feeding is represented in Plate 1, Plate 2 and Plate 3. The locations of all feeding records observed is record in Figure 5 in Appendix A.

Three large hollows were recorded during the survey that have been potentially utilised for breeding in the past. These hollows are present in Wandoo (*Eucalyptus wandoo*) and lie in the south west corner of the survey area. There are no Wandoo present outside of this portion of the survey area. The three hollows are mapped on Figure 5 in Appendix A.

Twelve tree plots were undertaken in 2018 within the survey area to provide an accurate estimate of density of suitable potential breeding trees for breeding by Carnaby's Black Cockatoo within the delineated habitat types. These plots provide a close approximation to quantify suitable trees within an area to assist in approval process In total 12 plots were recorded with both Wandoo and Mallee Woodland with the dominant species being Wandoo and York Gum. From the plot data approximately 3 - 4 York Gum were recorded in Mallee Woodland within a 50 m x 50 m plot. When in Wandoo Woodland approximately 7 Wandoo and 2 York Gum are present within a 50 m x 50 m plot. Small, medium and large hollows were present within plots, but no Carnaby's Black Cockatoo were recorded breeding at the time of the survey within any of the plots. Table 18shows the data collected for each of the tree plots.

Table 18 Results from the tree plot assessments 2018

Tree Plots(50 x 50m)	York Gum	Wandoo	Comment
Tree Plot 1	3		1 small hollow
Tree Plot 2	5		5 small hollows
Tree Plot 3	2		2 small hollows
Tree Plot 4	1		2 small hollows
Tree Plot 5	2		-
Tree Plot 6	6		3 small, 1 medium hollow. Galah nesting in medium.
Tree Plot 7	4		6 small hollows, bees in one
Tree Plot 8	3		-
Tree Plot 9	4		1 small hollow
Tree Plot 10	2	13	3 large hollows in Wandoo, 1 small in York
Tree Plot 11	3	6	1 small hollows in Wandoo, 1 small in York
Tree Plot 12	2	5	2 small hollows in Wandoo, 2 small in York

Plate 1 Fresh and old Banksia sessilis snipping's on the ground, 2018

Plate 2 *Fresh Banksia sessilis snipping's still in shrub, 2018*

Plate 3 *Old Banksia sessilis snippings's at the base of a shrub, 2018*

2024 Black Cockatoo assessment

The 2024 GHD survey area is located within the DAWE (2022) *Referral guideline for 3 WA threatened black cockatoo species* modelled distribution of Carnaby's Cockatoo breeding range (foraging and roosting) and outside the modelled distribution of Forest Red-tailed Black Cockatoo and Baudin's Cockatoo.

Carnaby's Black Cockatoo are known to utilise habitat within the additional survey areas and foraging evidence was recorded at five locations (Figure 8, Appendix F). Evidence was represented by old, chewed *Banksia sessilis*,

in particular snipped branches on the ground. Some examples of *B.sessilis* identified as old foraging evidence are represented in Plate 4.

Plate 4 *Old Banksia sessilis snippings at the base of the shrub (2024 survey)*

Foraging habitat for Carnaby's occurs in the survey area in the form of Proteaceous (*Banksia* and *Hakea*) and Eucalyptus species. Approximately 146.63 ha of potential foraging habitat was recorded within the survey area. The foraging habitat includes Heathland and Mixed Scrublands habitat. Foraging scores seen in Table 19 and were determined by utilising Trudgen (2012) report and data provided by the Department of Environment and Conservation (2011). The foraging scoring tool (DAWE, 2022) used to attribute the foraging values per survey area and per vegetation unit is provided in Appendix E. The foraging scores have been mapped in (Figure 8, Appendix F).

Table 19 *Total hectares of potential Carnaby's Black Cockatoo foraging scored within the survey area 2024.*

Foraging Score	North Kiaka DE Total Hectares (ha)	Cairn Hill North Total Hectares (ha)	Cairn Hill Reserve Total Hectares (ha)	Moora Mine DE Total Hectares (ha)	Grand Total (ha)
0	0	0	0	0	0
1	0	0	0	0	0
2	0.8	0	0	0	0
3	63.42	41.19	71.2	38.2	214.01
4	0	0	0	0	0
5	0	0	0.53	0	0.53
6	1.63	0.34	44.33	16.98	63.28
7	1.85	11.35	7.67	20.89	41.76
8	15.78	5.17	18.94	1.17	41.06
9	0	0	0	0	0
10	0	0	0	0	0

Foraging Score	North Kiaka DE Total Hectares (ha)	Cairn Hill North Total Hectares (ha)	Cairn Hill Reserve Total Hectares (ha)	Moora Mine DE Total Hectares (ha)	Grand Total (ha)
Total Vegetation Hectare (ha)	**84.02**	**58.05**	**142.67**	**77.24**	**361.98**

Three large hollows were recorded during the 2024 survey that have potentially been used for breeding. These hollows are present in Salmon Gums (*Eucalyptus salmonophloia*) and lie in the south west corner of the Cairn Hill North survey area and outside of the North Kiaka DE. All hollows are approximately 10cm in diameter and have extensive chews present, as shown in Plate 5. There are no Salmon Gum's present outside of this portion of the survey area. The three hollows are mapped in Figure 8, Appendix F.

No roosting areas were recorded in the survey area, and none would be expected in the south western corner of the Cairn Hill North survey area (where the only large/tallest trees are present). The remaining vegetation present is not suitable for roosting.

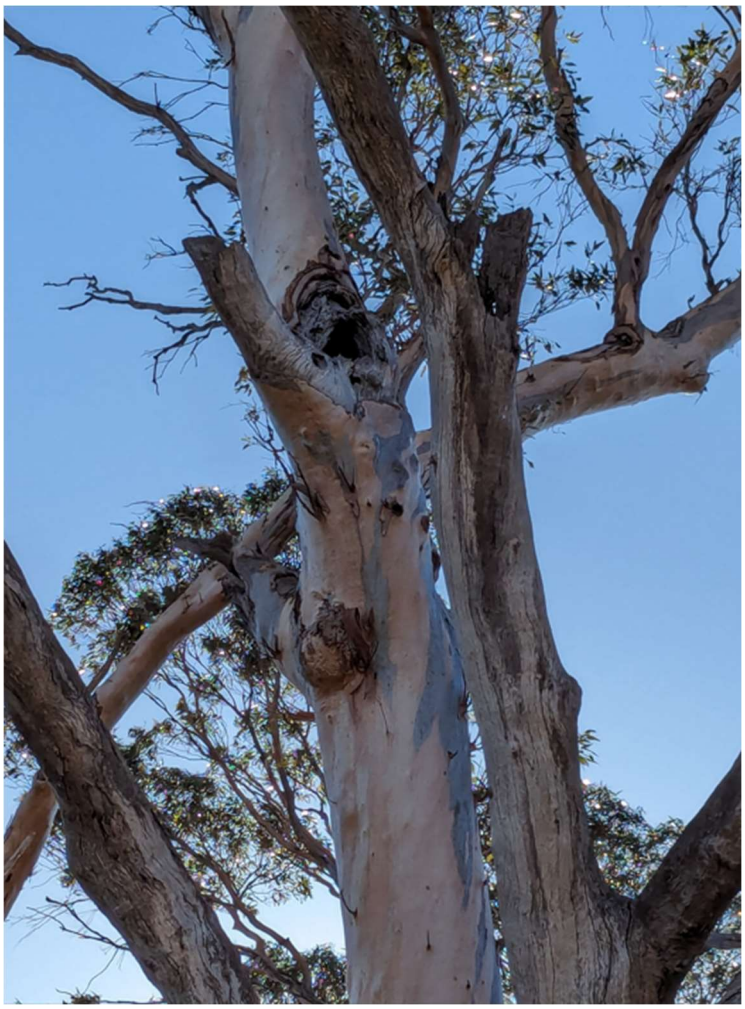


Plate 5 Potential Black Cockatoo hollow observed in a Salmon Gum (Eucalyptus salmonophloia) in 2024

4.3.2.2 Peregrine Falcon (*Falco peregrinus*)

The Peregrine Falcon is listed as Special Protection under the BC Act.

The Peregrine Falcon is a large falcon species which predominantly preys aerially on medium sized birds such as Pigeon, Galah and ducks. The species prefers areas with deep gorges or large cliff faces with riparian or plain habitat surrounding. The Peregrine Falcon nests primarily on ledges of cliffs, shallow tree hollows, and ledges of

buildings in cities (Morcombe 2004). The Peregrine Falcon is wide ranging, mobile and aerial in nature, and therefore is likely to utilise all of the habitats within the survey area.

No large rocky cliff faces are present within the survey area, however habitat is available to the species in the remainder of the survey area for foraging. There are no suitable nesting areas for this species present within the survey area.

Given the availability of suitable habitat in the local area and surrounding region, and that the Peregrine Falcon is a wide ranging and highly mobile species, the available habitat is unlikely to be significant for the Peregrine Falcon at either the local or regional levels.

4.3.3 Accumulation curve

An accumulation curve was run for the data collected during the field survey within eight models in Primer V6. The UGE curve is typically used for ecological assessment and in this instance demonstrate poor fit to the data and fails to reach a curve asymptote (very few new species were recorded) after trap night 7 (Chart 3). This is probably true to form whereby the sampling is undertaken in a dominant habitat type of limited species diversity. With additional habitat types the species diversity would have increased therefore producing an asymptotic accumulation curve

In this instance the accumulation curve does not represent the effort and diversity of the study. The raw data of the known species in the region (of reptile, small mammal and frogs from *NatureMap*) suggests approximately 25 species could utilise the dominant habitat present in the survey area. This study recorded 18 species, similar in numbers to those presented above, suggesting that a large percentage of the species present were recorded during the survey

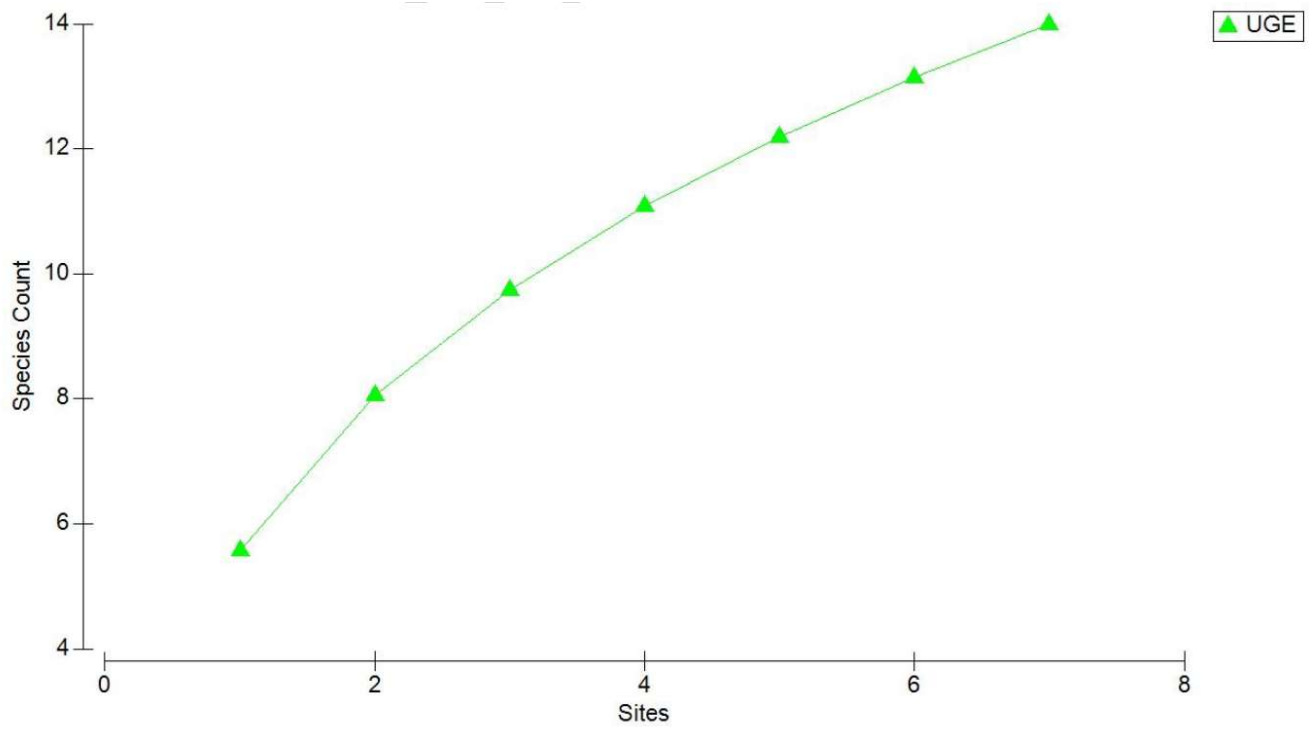


Chart 3 ***Accumulation Curve for the trap data in 2018***

5. Conclusion

The survey area comprises of six broad fauna habitat types:

– Wandoo Woodland
– Kyaka Brook- Riparian / Dam / small Water Body
– Mallee Woodland
– Mixed Shrublands on Low hills
– Quartzite Outcropping formations
– Disturbed areas.

The conservation value of each habitat type has been rated based on condition, structural complexity, faunal diversity and habitat for conservation significant fauna (i.e. contains essential habitat for breeding and/or feeding). Habitat values for the six types are all considered high to moderate value. A large portion of the survey area is disturbed and comprises of existing mines, tracks, cleared agricultural lands, old fencing and historical cleared areas, these areas have low significance.

The DBCA *NatureMap* search identifies that 204 vertebrate fauna taxa previously recorded within 20 km of the survey area (DBCA 2018). This total included seven amphibians, 157 birds, one fish, 8 mammals and 31 reptiles.

The trapping program recorded 97 vertebrate fauna species utilising the survey area, including 16 mammals, 63 birds and 18 reptiles. Of these, five introduced species were identified and were all mammals. Based on the database search the trapping program produced approximately half of the predicted species for the area. There are several possible reasons for the low fauna diversity. Firstly, the remnant areas of habitat are fragmented with a history of disturbance. Secondly the remnant habitats are positioned within the environment on heavy rock and soils unsuitable for a large number of species to utilise. This was evident in the trapping data where groups of reptiles that are normally very common in the environment were not sampled i.e. Burtons Legless Lizard, Gould's Monitor, *Ctenotus fallens* and *Morethia obscura*. It is likely that a different suite of faunal groups would be present in other times in the year i.e. amphibians in autumn/winter and seasonally moving species. Additionally, the area has few previous comprehensive or systematic surveys and as such the opportunities to compare results to other studies in the area are limited.

One conservation significant fauna species was identified as present and an additional one potentially occurring in the survey area based on a combination of observations and habitat assessment. Species known to persist in the survey area:

– Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) – listed under Schedule 2 (Endangered) under the State BC Act and Endangered under the Commonwealth EPBC Act.

Species likely to be present in the survey area:

– Peregrine Falcon (*Falco peregrinus*) – Other special Protection under the BC Act.

Of the conservation significant species discussed in this Report, the Carnaby's Black Cockatoo is the only species relies on the resources (foraging habitat present) within the survey area in order to persist in the region. The survey area (and foraging habitat) is also within approximately 12 km of known breeding areas of Carnaby's Black Cockatoo which is critical to the survival of chicks during the breeding season.

Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) were determined to utilise the 2024 survey area for foraging purposes. This was determined by observing old *B.sessilis* clippings within the survey area, however no fresh evidence was identified so it is uncertain as to the extent the Carnaby's Black Cockatoo would utilise the site.

Carnaby's Black Cockatoo rely on the resources (foraging habitat present) within the survey area in order to persist in the region, but there is likely more reliable and extensive foraging resources outside of the survey area, that are in better condition. The survey area (and foraging habitat) is also within approximately 12 km of known breeding areas of Carnaby's Black Cockatoo which is critical to the survival of chicks during the breeding season.

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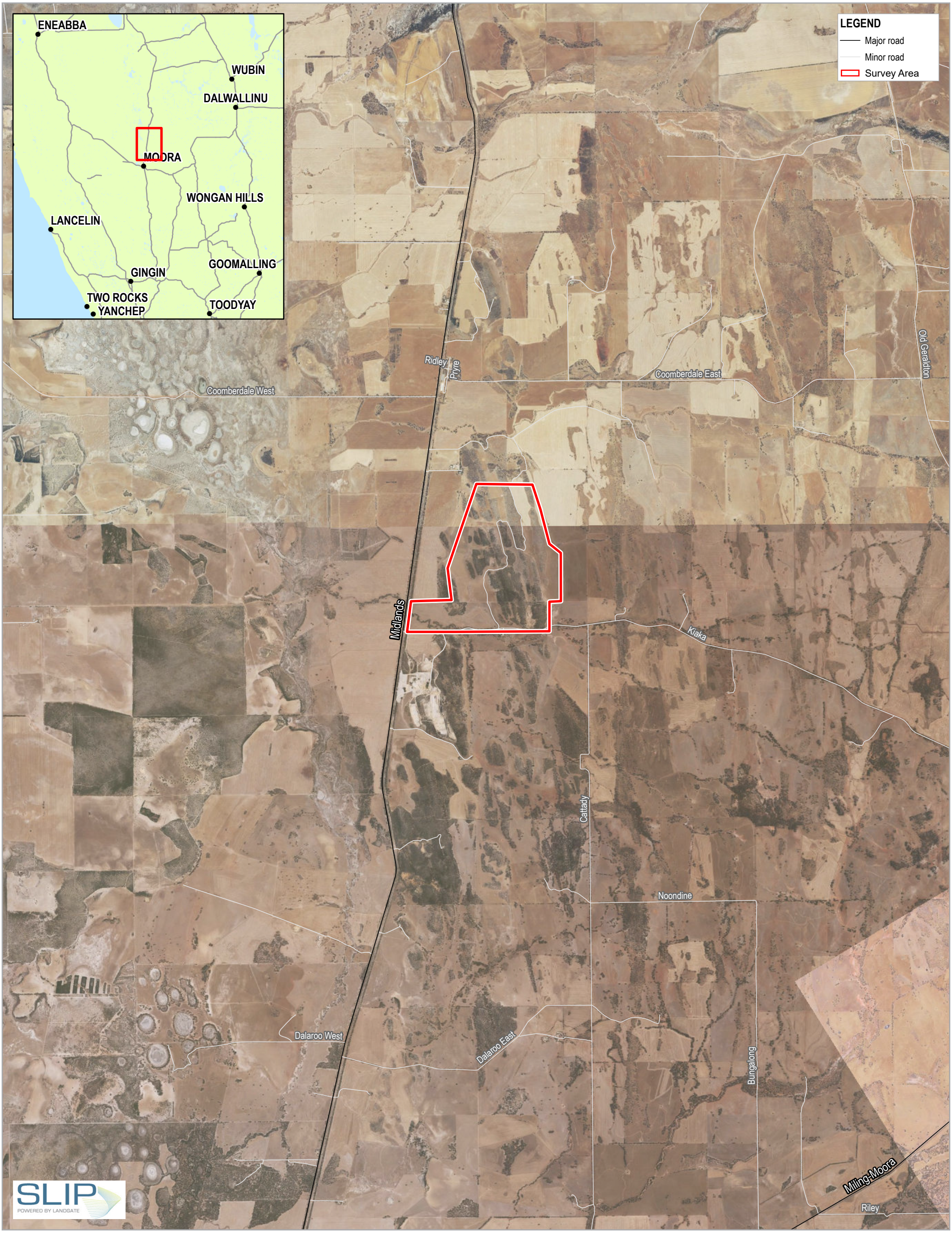
Appendices

Appendix A

2018 Fauna Assessment Figures



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Simcoa Operations Pty. Ltd.
Simcoa - Nth Kiaka Level 2 Fauna Study

Project Location

Project No. **12518217**
Revision No. **0**
Date **23 Jun 2021**

FIGURE 1

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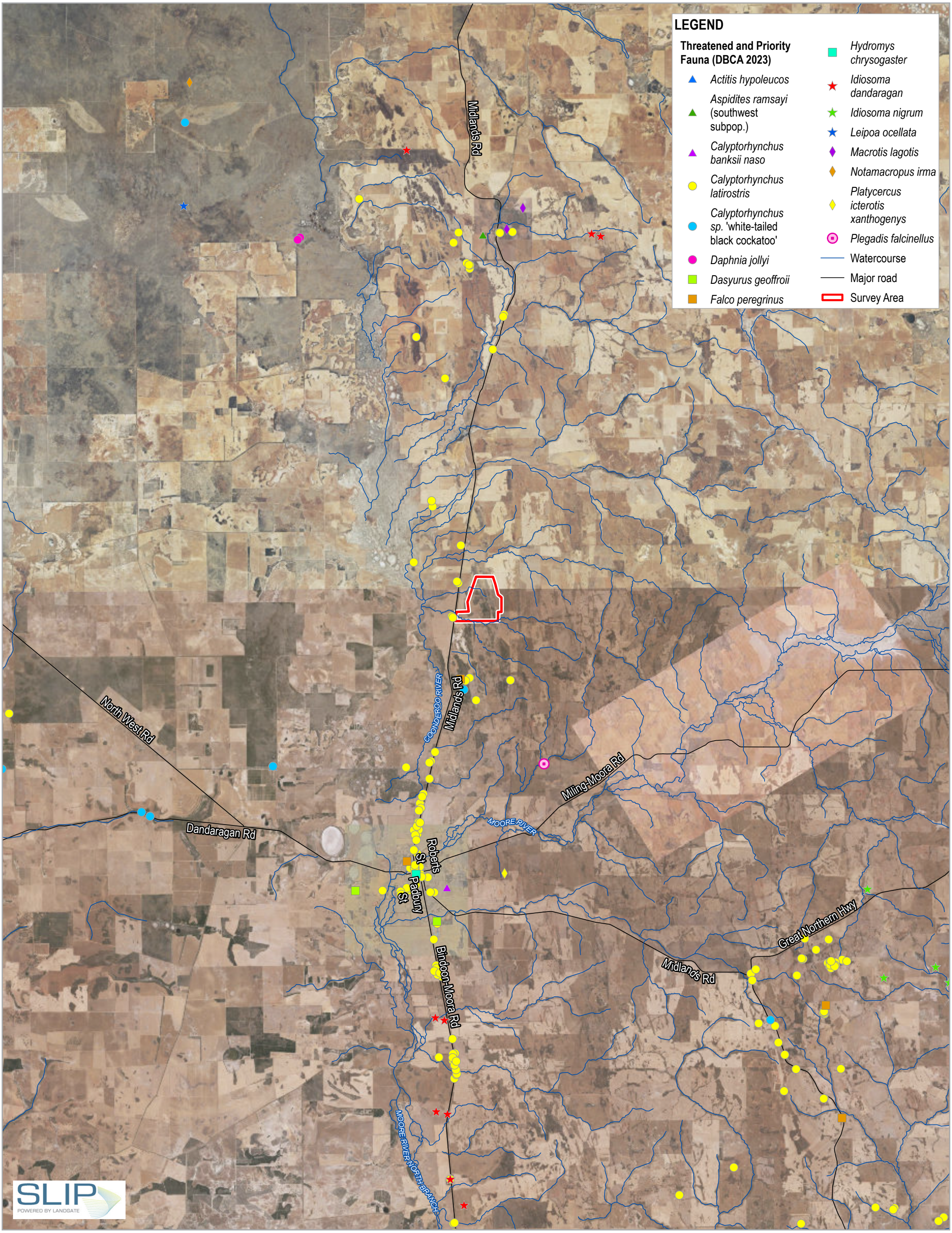

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Biological Constraints

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Revision No. **0**
Date **13 Mar 2023**

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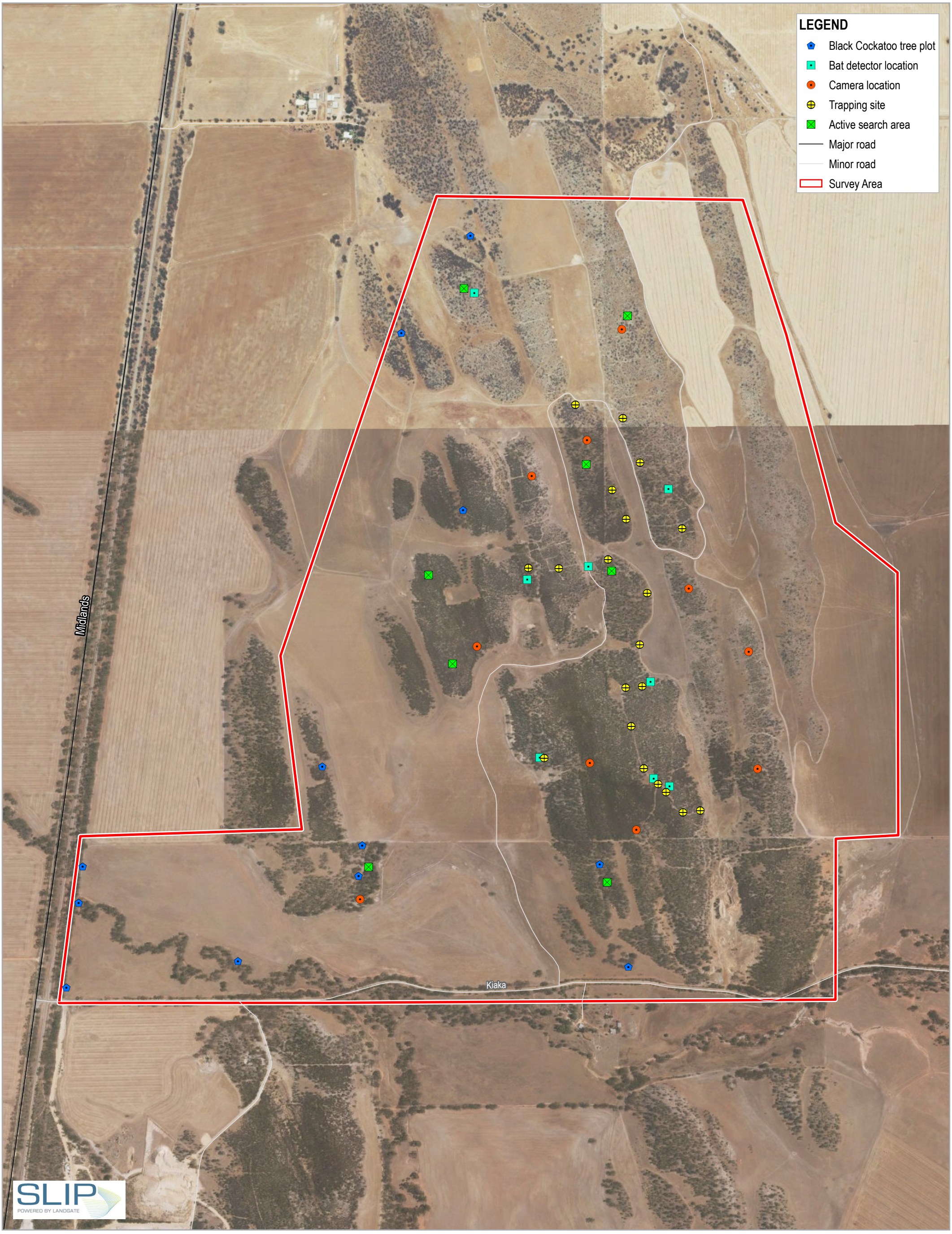

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Fauna Methods

Project No. **12518217**
Revision No. **0**
Date **23 Jun 2021**

FIGURE 3

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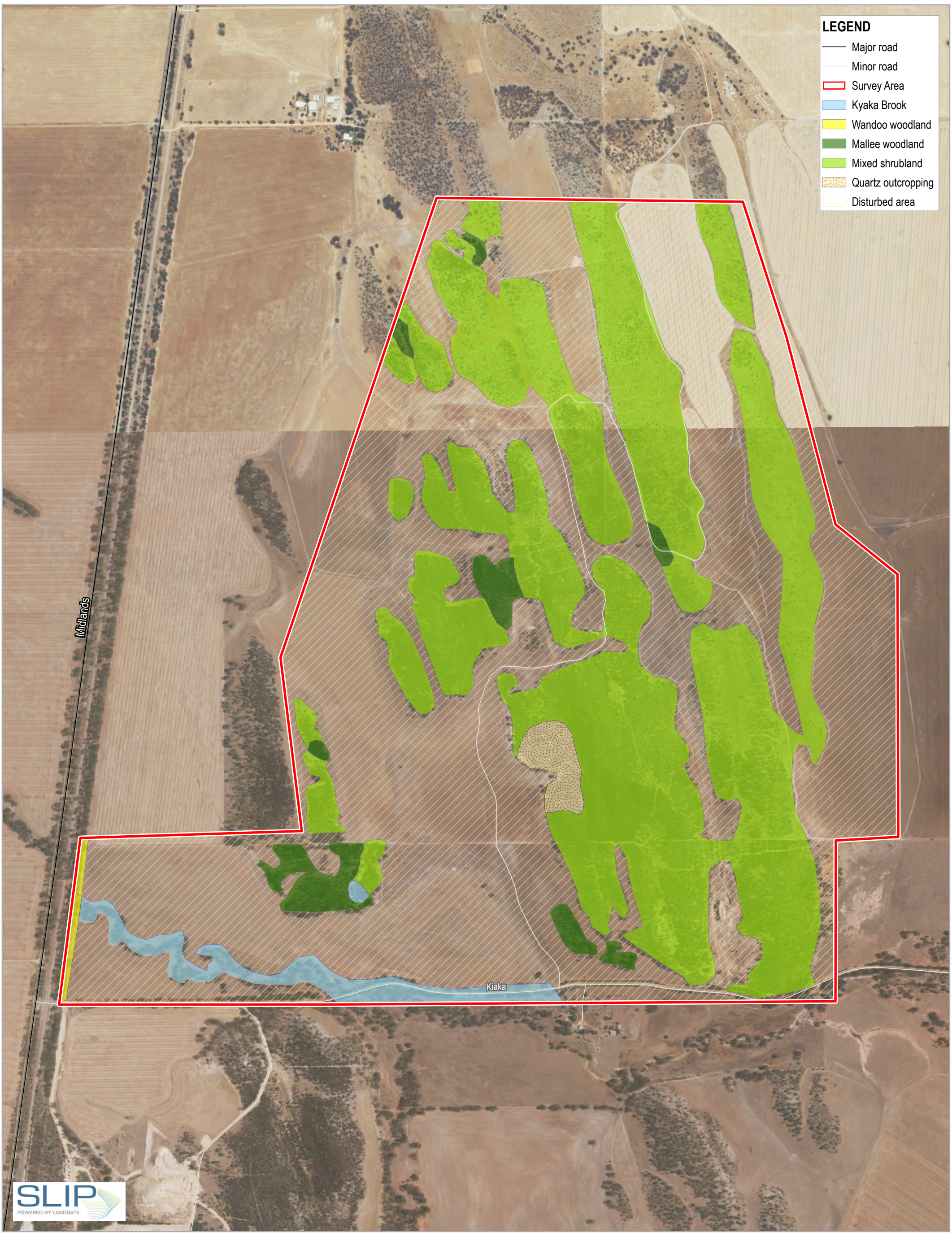

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Simcoa - Nth Kiaka Level 2 Fauna Study

Fauna Habitats

Project No. **12518217**
Revision No. **0**
Date **23 Jun 2021**

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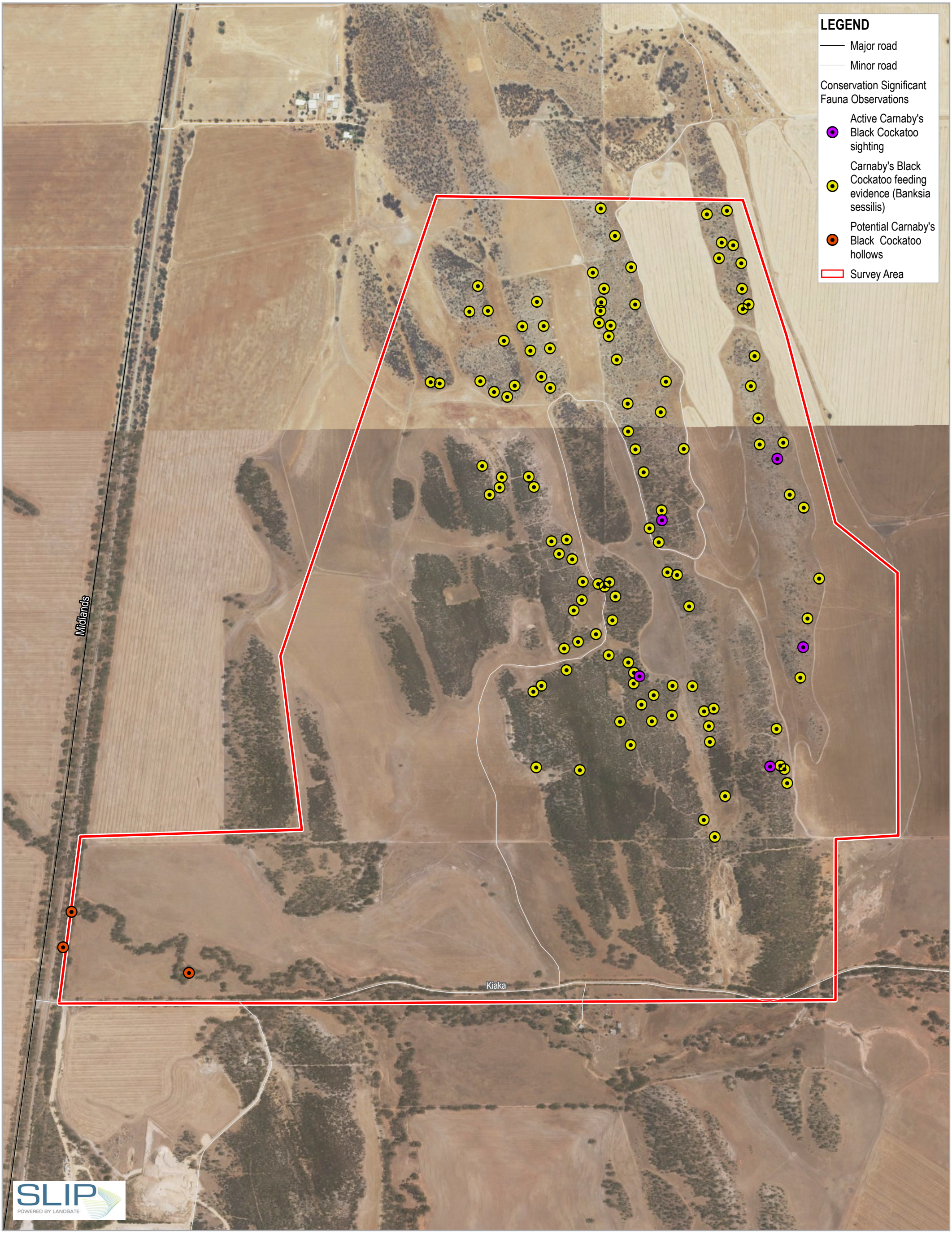

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Fauna Results

Project No. **12518217**
Revision No. **0**
Date **23 Jun 2021**

FIGURE 5

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Appendix B

Relevant legislation, conservation codes and background information

Relevant legislation

Federal *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Federal Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as Matters of National Environmental Significance (MNES).

The biological aspects listed as MNES include:

- Nationally threatened flora and fauna species and ecological communities
- Migratory species

A person must not undertake an action that has, will have, or is likely to have a significant impact (direct or indirect) on MNES, without approval from the Federal Minister for the Environment.

The EPBC Act is administered by the Department of the Environment and Energy (DEE).

State *Environmental Protection Act 1986*

The *Environmental Protection Act 1986* (EP Act) is the primary legislative Act dealing with the protection of the environment in Western Australia. The Act allows the Environmental Protection Authority (EPA), to prevent, control and abate pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing. Part IV of the EP Act is administered by the EPA and makes provisions for the EPA to undertake environmental impact assessment of significant proposals, strategic proposals and land use planning schemes.

The Department of Water and Environment Regulation (DWER) is responsible for administering the clearing provisions of the EP Act (Part V). Clearing of native vegetation in Western Australia requires a permit from the DWER, unless exemptions apply. Applications for clearing permits are assessed by the Department and decisions are made to grant or refuse the application in accordance with the Act. When making a decision the assessment considers clearing against the ten clearing principles as specified in Schedule 5 of the EP Act:

a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significance habitat for fauna indigenous to Western Australia.

c) Native vegetation should not be cleared if it includes, or is necessary, for the continued existence of rare flora.

d) Native vegetation should not be cleared if it comprises the whole or part of native vegetation in an area that has been extensively cleared.

e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

g) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

h) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

Exemptions for clearing include clearing that is a requirement of a written law or authorised under certain statutory processes (listed in Schedule 6 of the EP Act) and exemptions for prescribed low impact day-to-day activities (prescribed in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004); these exemptions do not apply in environmentally sensitive areas (ESAs).

State *Biodiversity and Conservation Act 2016*

The *Biodiversity Conservation Act 2016* (BC Act) provides for the conservation, protection and promotion of the ecologically sustainable use of biodiversity components in Western Australia. The BC Act replaced both the *Wildlife Conservation Act 1950* (WC Act) and the *Sandalwood Act 1929* (Sandalwood Act) as of 1 January 2016. To attain the objectives of the BC Act, principles of ecological sustainable development have been established:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- The conservation of biodiversity and ecological integrity should be a fundamental consideration indecision-making
- Improved valuation, pricing and incentive mechanisms should be promoted

The BC Act is administered by the Department of Biodiversity Conservation and Attractions (DBCA)

State *Biosecurity and Agriculture Management Act 2007*

The *Biosecurity and Agriculture Management Act 2007* (BAM Act) and associated regulations are administered by the Department of Primary Industries and Regional Development (DPIRD) and replace the repealed *Agriculture and Related Resources Protection Act 1976.* The main purposes of the BAM Act and its regulations are to:

- Prevent new animal and plant pests (vermin and weeds) and diseases from entering WA
- Manage the impact and spread of those pests already present in the state
- Safely manage the use of agricultural and veterinary chemicals
- Increased control over the sale of agricultural products that contain violative chemical residues

The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under the BAM Act. A Declared Pest is a prohibited organism or an organism for which a declaration under Section 22(2) of the Act is in force. Declared Pests may be assigned a control category including: C1 (exclusion), C2 (eradication) and C3 (management). The category may apply to the whole of the State, LGAs, districts, individual properties or even paddocks, and all landholders are obliged to comply with the specific category of control. Categories of control are defined below.

Fauna

Conservation significant fauna

Species of significant fauna are protected under both Federal and State legislation. Any activities that are deemed to have a significant impact on species that are recognised by the EPBC Act, and/or the BC Act can warrant referral to the DEE and/or the EPA.

The Federal conservation level of fauna species and their significance status is assessed under the EPBC Act. The significance levels for fauna used in the EPBC Act are those recommended by the International Union for Conservation of Nature (IUCN).

The EPBC Act also protects land and migratory species that are listed under International Agreements. The list of migratory species established under section 209 of the EPBC Act comprises:

- Migratory species which are native to Australia and are included in the appendices to the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals Appendices I and II)
- Migratory species included in annexes established under the Japan-Australia Migratory Bird Agreement (JAMBA) and the China–Australia Migratory Bird Agreement (CAMBA)
- Native, migratory species identified in a list established under, or an instrument made under, an international agreement approved by the Minister, such as the republic of Korea–Australia Migratory Bird Agreement (ROKAMBA)

Under the BC Act aligns with the EPBC Act in that fauna can be Specially Protected, listed as Threatened (Critically Endangered, Endangered or Vulnerable) or Extinct in Western Australia. Threatened species are those are species which have been adequately searched for and are deemed to be, in the wild, either rare, under identifiable threat of extinction, or otherwise in need of special protection, and have been gazetted as such.

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna.

Species 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, are placed in Priority 4. These species require regular monitoring.

For the purposes of this assessment, all species listed under the EPBC Act, BC Act and DBCA Priority species are considered conservation significant.

Conservation categories and definitions for EPBC Act and BC Act listed fauna species

Conservation category	Definition
Extinct	There is no reasonable doubt that the last member of the species has died.
Extinct in the Wild	A) A species known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or B) A species that has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

Conservation category	Definition
Critically Endangered	A species facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000).
Endangered	A) A species not critically endangered; and B) A species facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
Vulnerable	A) A species not critically endangered or endangered; and B) A species facing a high risk of extinction in the wild in the medium-term, as determined in accordance with the prescribed criteria.
Conservation Dependent	A) The species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or B) The following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that Section 180 provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Conservation codes for DBCA listed Priority fauna

Priority category	Definition
Priority 1	Poorly-known taxa 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.
Priority 2	Poorly-known taxa 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.
Priority 3	Poorly-known taxa 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

Priority category	Definition
	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.
Priority 4	Rare, Near Threatened and other taxa in need of monitoring A. Rare: Taxa 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 taxa are usually represented on conservation lands. B. Near Threatened. Taxa 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. Taxa that have been removed from the list of threatened taxa during the past five years for reasons other than taxonomy.

Other significant fauna

Fauna species may be significant for a range of reasons other than those protected by international agreement or treaty, Specially Protected or Priority Fauna. Significant fauna may include short-range endemic species, species that have declining populations or declining distributions, species at the extremes of their range, or isolated outlying populations, or species which may be undescribed (EPA 2010).

Appendix C

Desktop searches

EPBC Act PMST Report (20 km buffer)

NatureMap (20 km buffer)

Australian Government
Department of the Environment and Energy

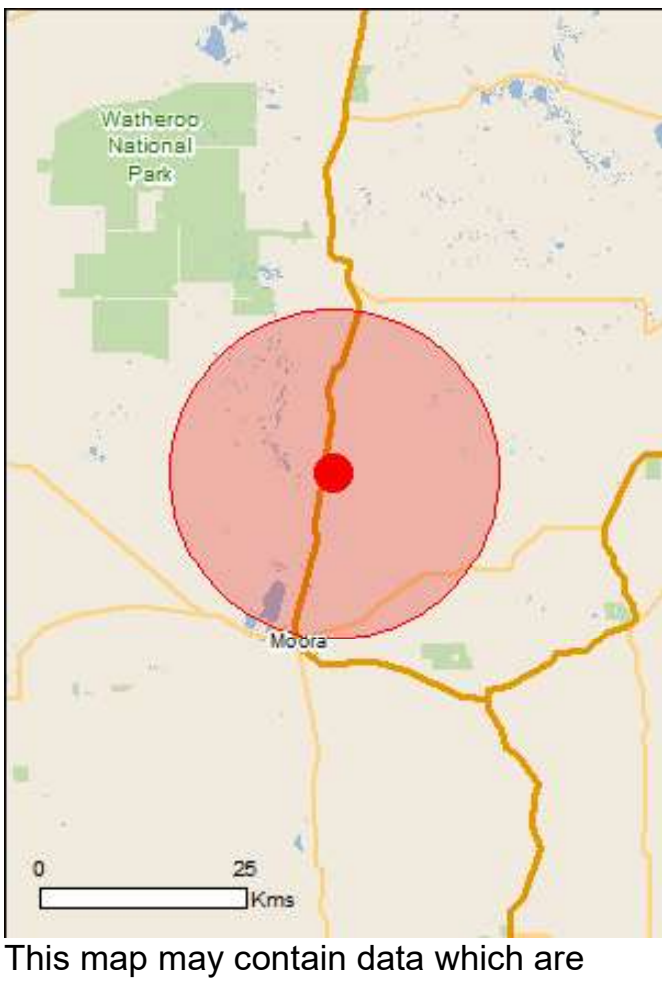
EPBC Act Protected Matters Report

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

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

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

Report created: 13/11/18 17:21:56



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

Coordinates
Buffer: 20.0Km

Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	43
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	6
Regional Forest Agreements:	None
Invasive Species:	17
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

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

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Eucalypt Woodlands of the Western Australian Wheatbelt	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus latirostris		
Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pezoporus occidentalis		
Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Rostratula australis		
Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Fish		
Nannatherina balstoni		
Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Dasyurus geoffroii		
Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area
Other		
Idiosoma nigrum		
Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat likely to occur within area
Plants		

Name	Status	Type of Presence
Acacia aprica Blunt Wattle [64821]	Endangered	Species or species habitat may occur within area
Acacia aristulata Watheroo Wattle [64822]	Endangered	Species or species habitat known to occur within area
Acacia cochlocarpa subsp. cochlocarpa Spiral-fruited Wattle [23877]	Endangered	Species or species habitat known to occur within area
Acacia cochlocarpa subsp. velutinosa Velvety Spiral Pod Wattle [65112]	Critically Endangered	Species or species habitat may occur within area
Banksia fuscobractea Dark-bract Banksia [83059]	Critically Endangered	Species or species habitat may occur within area
Caladenia drakeoides Hinged Dragon Orchid [68687]	Endangered	Species or species habitat likely to occur within area
Chamelaucium sp. Gingin (N.G.Marchant 6) Gingin Wax [88881]	Endangered	Species or species habitat may occur within area
Chorizema humile Prostrate Flame Pea [32573]	Endangered	Species or species habitat likely to occur within area
Conospermum densiflorum subsp. unicephalatum One-headed Smokebush [64871]	Endangered	Species or species habitat known to occur within area
Dasymalla axillaris Native Foxglove [38829]	Critically Endangered	Species or species habitat may occur within area
Daviesia dielsii Diels' Daviesia [19617]	Endangered	Species or species habitat known to occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat may occur within area
Eremophila scaberula Rough Emu Bush [16729]	Endangered	Species or species habitat known to occur within area
Eucalyptus absita Badgingarra Box [24260]	Endangered	Species or species habitat likely to occur within area
Eucalyptus crispata Yandanooka Mallee [24268]	Vulnerable	Species or species habitat may occur within area
Eucalyptus dolorosa Dandaragan Mallee, Mount Misery Mallee [56709]	Endangered	Species or species habitat may occur within area
Eucalyptus impensa Eneabba Mallee [56711]	Endangered	Species or species habitat may occur within area
Eucalyptus leprophloia Scaly Butt Mallee, Scaly-butt Mallee [56712]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Eucalyptus pruiniramis Midlands Gum, Jingymia Gum [56403]	Endangered	Species or species habitat known to occur within area
Eucalyptus rhodantha Rose Mallee [9362]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area
Frankenia conferta Silky Frankenia [6074]	Endangered	Species or species habitat may occur within area
Gastrolobium appressum Scale-leaf Poison [7358]	Vulnerable	Species or species habitat may occur within area
Gastrolobium hamulosum Hook-point Poison [9212]	Endangered	Species or species habitat likely to occur within area
Goodenia arthrotricha [12448]	Endangered	Species or species habitat known to occur within area
Grevillea christineae Christine's Grevillea [64520]	Endangered	Species or species habitat known to occur within area
Grevillea pythara Pythara Grevillea [64525]	Endangered	Species or species habitat may occur within area
Hemiandra gardneri Red Snakebush [7945]	Endangered	Species or species habitat known to occur within area
Jacksonia pungens Pungent Jacksonia [64920]	Endangered	Species or species habitat may occur within area
Roycea pycnophylloides Saltmat [21161]	Endangered	Species or species habitat may occur within area
Synaphea quartzitica Quartz-loving Synaphea [64978]	Endangered	Species or species habitat known to occur within area
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat may occur within area
Verticordia staminosa subsp. staminosa Wongan Featherflower [55825]	Endangered	Species or species habitat may occur within area
Reptiles		
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

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

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur

Name	Threatened	Type of Presence within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

Listed Marine Species [Resource Information]

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

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Karamarra	WA
Long Pool	WA
Manaling	WA
Namban	WA
Unnamed WA47694	WA
Watheroo	WA

Invasive Species

[Resource Information]

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

Name	Status	Type of Presence
Birds		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within

Name	Status	Type of Presence
		area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-30.48235 116.04478

Acknowledgements

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

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

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

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

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NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 13/11/2018

Kingdom Animalia
Current Names Only Yes
Core Datasets Only Yes
Species Group All Animals
Method 'By Circle'
Centre 116° 02' 53" E,30° 29' 21" S
Buffer 20km

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
1.	24559	*Acanthagenys rufogularis (Spiny-cheeked Honeyeater)*			
2.	24260	*Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)*			
3.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
4.	24262	*Acanthiza inornata (Western Thornbill)*			
5.		*Acanthiza lineata*			
6.	24265	*Acanthiza uropygialis (Chestnut-rumped Thornbill)*			
7.	24560	*Acanthorhynchus superciliosus (Western Spinebill)*			
8.	24281	*Accipiter cirrocephalus subsp. cirrocephalus (Collared Sparrowhawk)*			
9.	25536	*Accipiter fasciatus (Brown Goshawk)*			
10.	24282	*Accipiter fasciatus subsp. fasciatus (Brown Goshawk)*			
11.		*Acercella falcipes*			
12.	25544	*Aegotheles cristatus (Australian Owlet-nightjar)*			
13.	24301	*Aegotheles cristatus subsp. cristatus (Australian Owlet-nightjar)*			
14.		*Agraptocorixa eurynome*			
15.		*Agraptocorixa parvipunctata*			
16.		*Alboa worooa*			
17.		*Allodessus bistrigatus*			
18.		*Alona cf. rigidicaudis s.l. (CB, but may be multiple spp.)*			
19.		*Alona rigidicaudis*			
20.		*Amblyomma triguttatum*			
21.		*Aname mainae*			
22.	24310	*Anas castanea (Chestnut Teal)*			
23.	24312	*Anas gracilis (Grey Teal)*			
24.	24315	*Anas rhynchotis (Australasian Shoveler)*			
25.	24316	*Anas superciliosa (Pacific Black Duck)*			
26.		*Anisops baylii*			
27.		*Anisops gratus*			
28.		*Anisops sp.*			
29.		*Anisops thienemanni*			
30.	25241	*Antaresia stimsoni subsp. stimsoni (Stimson's Python)*			
31.	24561	*Anthochaera carunculata (Red Wattlebird)*			
32.	24562	*Anthochaera lunulata (Western Little Wattlebird)*			
33.	24599	*Anthus australis subsp. australis (Australian Pipit)*			
34.		*Antiporus sp.*			
35.		*Apocyclops dengizicus*			
36.	24991	*Aprasia repens (Sand-plain Worm-lizard)*			
37.	24285	*Aquila audax (Wedge-tailed Eagle)*			
38.		*Araneus cyphoxis*			
39.	24340	*Ardea novaehollandiae (White-faced Heron)*			
40.	24341	*Ardea pacifica (White-necked Heron)*			
41.		*Argiope protensa*			
42.	25566	*Artamus cinereus (Black-faced Woodswallow)*			
43.		*Artamus cinereus subsp. cinereus*			
44.	24353	*Artamus cyanopterus (Dusky Woodswallow)*			
45.	24356	*Artamus personatus (Masked Woodswallow)*			
46.		*Austrochiltonia subtenuis*			
47.		*Austrolestes annulosus*			
48.		*Austrolestes aridus*			
49.	24318	*Aythya australis (Hardhead)*			
50.		*Barnardius zonarius*			
51.		*Bdelloidea sp.*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
52.		*Bdelloidea sp. 2:2*			
53.		*Bennelongia australis lineage*			
54.		*Bennelongia barangaroo lineage*			
55.		*Berosus discolor*			
56.		*Berosus sp.*			
57.		*Bezzia sp. 1 (SAP)*			
58.	24319	*Biziura lobata (Musk Duck)*			
59.		*Boeckella triarticulata*			
60.		*Brachionus cf. plicatilis (SAP)*			
61.		*Brachionus plicatilis s.l.*			
62.		*Brachionus urceolaris s.l.*			
63.	42380	*Brachyurophis fasciolatus subsp. fasciolatus (Narrow-banded Shovel-nosed Snake)*			
64.	42381	*Brachyurophis semifasciatus (Southern Shovel-nosed Snake)*			
65.	24359	*Burhinus grallarius (Bush Stone-curlew)*			
66.	24722	*Cacatua leadbeateri (Major Mitchell's Cockatoo)*			
67.	25714	*Cacatua pastinator (Western Long-billed Corella)*			
68.	24723	*Cacatua pastinator subsp. butleri (Butler's Corella)*			
69.	25716	*Cacatua sanguinea (Little Corella)*			
70.	24427	*Cacomantis flabelliformis subsp. flabelliformis (Fan-tailed Cuckoo)*			
71.	42307	*Cacomantis pallidus (Pallid Cuckoo)*			
72.		*Calamoecia ampulla*			
73.		*Calamoecia sp. 342 (ampulla variant) (CB)*			
74.	24779	*Calidris acuminata (Sharp-tailed Sandpiper)*		IA	
75.	24786	*Calidris melanotos (Pectoral Sandpiper)*		IA	
76.	25717	*Calyptorhynchus banksii (Red-tailed Black-Cockatoo)*			
77.	24734	*Calyptorhynchus latirostris (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)*		T	
78.		*Candonocypris novaezelandiae*			
79.		*Ceinidae sp.*			
80.		*Ceratopogonidae sp.*			
81.	24086	*Cercartetus concinnus (Western Pygmy-possum, Mundarda)*			
82.	24186	*Chalinolobus gouldii (Gould's Wattled Bat)*			
83.	24377	*Charadrius ruficapillus (Red-capped Plover)*			
84.	24321	*Chenonetta jubata (Australian Wood Duck, Wood Duck)*			
85.	47909	*Cheramoeca leucosterna (White-backed Swallow)*			
86.		*Chironominae sp.*			
87.		*Chironomus aff. alternans (V24) (CB)*			
88.		*Chroicocephalus novaehollandiae*			
89.	24431	*Chrysococcyx basalis (Horsfield's Bronze Cuckoo)*			
90.	24432	*Chrysococcyx lucidus subsp. plagosus (Shining Bronze Cuckoo)*			
91.	24434	*Chrysococcyx osculans (Black-eared Cuckoo)*			
92.	24288	*Circus approximans (Swamp Harrier)*			
93.	24289	*Circus assimilis (Spotted Harrier)*			
94.		*Cladopelma curtivalva*			
95.	25675	*Colluricincla harmonica (Grey Shrike-thrush)*			
96.	24613	*Colluricincla harmonica subsp. rufiventris (Grey Shrike-thrush)*			
97.	24399	*Columba livia (Domestic Pigeon)*	Y		
98.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
99.	25592	*Corvus coronoides (Australian Raven)*			
100.	24417	*Corvus coronoides subsp. perplexus (Australian Raven)*			
101.	24671	*Coturnix pectoralis (Stubble Quail)*			
102.	25701	*Coturnix ypsilophora (Brown Quail)*			
103.	24420	*Cracticus nigrogularis (Pied Butcherbird)*			
104.	25595	*Cracticus tibicen (Australian Magpie)*			
105.	24422	*Cracticus tibicen subsp. dorsalis (White-backed Magpie)*			
106.	25596	*Cracticus torquatus (Grey Butcherbird)*			
107.	25401	*Crinia pseudinsignifera (Bleating Froglet)*			
108.		*Cryptochironomus griseidorsum*			
109.	30899	*Ctenophorus adelaidensis (Southern Heath Dragon, Western Heath Dragon)*			
110.	24886	*Ctenophorus reticulatus (Western Netted Dragon)*			
111.	25027	*Ctenotus australis*			
112.		*Culicidae sp.*			
113.		*Culicoides sp.*			
114.	24322	*Cygnus atratus (Black Swan)*			
115.		*Cypricercus salinus*			
116.	30901	*Dacelo novaeguineae (Laughing Kookaburra)*	Y		
117.		*Daphnia carinata*			
118.		*Daphnia cephalata*			
119.		*Daphnia sp.*			
120.		*Daphnia truncata*			

Appendix D

Fauna Data

Fauna species list

Fauna likelihood of occurrence assessment guideline and definitions

Fauna likelihood of occurrence assessment

Species identified from remote camera Trapping Data

Table 20 Compiled species list 2018

Family	Species	Common Name	Status	This survey
Birds				**Totals**
Acanthizidae	*Acanthiza apicalis*	Inland Thornbill		34
Acanthizidae	*Acanthiza chrysorrhoa*	Yellow-rumped Thornbill		39
Acanthizidae	*Acanthiza uropygialis*	Chestnut-rumped Thornbill		22
Acanthizidae	*Smicrornis brevirostris occidentalis*	Weebill		73
Acanthizidae	*Pyrrholaemus brunneus*	Redthroat		2
Accipitridae	*Accipiter cirrocephalus*	Collared Sparrowhawk		2
Accipitridae	*Accipiter fasciatus*	Brown Goshawk		3
Accipitridae	*Aquila audax*	Wedge-tailed Eagle		5
Anatidae	*Anus gracilis*	Grey Teal		11
Ardeidae	*Ardea pacifica*	White-necked Heron		2
Ardeidae	*Egretta novaehollandiae*	White-faced Heron		5
Artamidae	*Artamus cinereus*	Black-faced Woodswallow		14
Artamidae	*Cracticus tiibicen dorsalis*	Australian Magpie		35
Artamidae	*Cracticus nigrogularis*	Pied Butcherbird		11
Artamidae	*Cracticus torquatus*	Grey Butcherbird		5
Cacatuidae	*Cacatua pastinator butleri*	Western Corella		6
Cacatuidae	*Cacatua sanguinea*	Little Corella		4
Cacatuidae	*Calyptorhynchus latirostris*	Carnaby's Black Cockatoo	En, En	29
Cacatuidae	*Eolophus roseicapilla*	Galah		81
Cacatuidae	*Nymphicus hollandicus*	Cockatiel		18
Campephagidae	*Coracina novaehollandiae*	Black-faced Cuckoo-shrike		23
Campephagidae	*Lalage sueurii*	White-winged Triller		12
Casuariidae	*Dromaius novaehollandiae*	Emu		1
Columbidae	*Ocyphaps lophotes*	Crested Pigeon		8
Columbidae	*Phaps chalcoptera*	Common Bronzewing		9
Corvidae	*Corvus coronoides perplexus*	Australian Raven		19
Cuculidae	*Cacomantis pallidus*	Pallid Cuckoo		3
Falconidae	*Falco cenchroides cenchroides*	Nankeen Kestrel		5
Falconidae	*Falco longipennis*	Hobby Falcon		4
Falconidae	*Falco berigora*	Brown Falcon		2
Halcyonidae	*Todiramphus sanctus*	Sacred Kingfisher		3
Halcyonidae	*Todiramphus pyrrhopygius*	Red-backed Kingfisher		1
Hirundinidae	*Petrochelidon nigricans*	Tree Martin		5
Hirundinidae	*Cheramoeca leucosterna*	White-backed Swallow		4
Maluridae	*Malurus splendens*	Splendid Fairy-wren		4
Maluridae	*Malurus lamberti*	Variegated Fairy-wren		6
Meliphagidae	*Manorina flavigula*	Yellow-throated Miner		2

Family	Species	Common Name	Status	This survey
Birds				**Totals**
Meliphagidae	*Anthochaera carunculata*	Red Wattlebird		13
Meliphagidae	*Lichenostomus leucotis*	White-eared Honeyeater		5
Meliphagidae	*Lichenostomus virescens virescens*	Singing Honeyeater		17
Meliphagidae	*Lichmera indistincta*	Brown Honeyeater		34
Meliphagidae	*Melithreptus brevirostris*	Brown-headed Honeyeater		4
Meliphagidae	*Glyciphila melanops*	Tawny-crowned Honeyeater		2
Meliphagidae	*Purnella albifrons*	White-fronted Honeyeater		7
Meropidae	*Merops ornatus*	Rainbow bee-eater		0
Monarchidae	*Grallina cyanoleuca*	Magpie-lark		7
Megaluridae	*Cincloramphus mathewsi*	Rufous Songlark		1
Megaluridae	*Cincloramphus cruralis*	Brown Songlark		3
Motacillidae	*Anthus novaeseelandiae*	Richards Pipit		16
Nectariniidae	*Dicaeum hirundinaceum*	Mistletoebird		4
Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella		4
Pachycephalidae	*Colluricincla harmonica*	Grey Shrike-thrush		11
Pachycephalidae	*Pachycephala rufiventris*	Rufous Whistler		21
Pardalotidae	*Pardalotus striatus*	Striated Pardalote		5
Petroicidae	*Petroica goodenovii*	Red-capped Robin		26
Phasianidae	*Coturnix ypsilophora*	Brown Quail		17
Pomatostomidae	*Pomatostomus superciliosus*	White-browed Babbler		nests
Psittacidae	*Barnadius zonarius semitorquatus*	Australian Ringneck		34
Psittacidae	*Polytelis anthopeplus*	Regent Parrot		20
Rhipiduridae	*Rhipidura leucophrys leucophrys*	Willie Wagtail		3
Strigidae	*Ninox novaeseelandiae*	Boobook Owl		3
Timaliidae	*Zosterops lateralis*	Silvereye		27
Turnicidae	*Turnix velox*	Little Button Quail		2
Reptiles				
Agamidae	*Pogona minor*	Western Bearded Dragon		8
Agamidae	*Ctenophorus reticulatus*	Western Netted Dragon		1
Diplodactylidae	*Diplodactylus granariensis*	Western Stone Gecko		13
Elapidae	*Brachyurophis semifasciatus*	Southern Shovel-nosed Snake		1
Elapidae	*Demansia psammophis reticulata*	Reticulated Whip Snake		1
Elapidae	*Pseudechis australis*	Mulga Snake		1
Elapidae	*Peudonaja mengdeni*	Gwardar		1
Elapidae	*Simoselaps bertholdi*	Jan's Banded Snake		2
Gekkonidae	*Gehyra variegata*	Tree Dtella		55
Gekkonidae	*Heteronotia binoei*	Binoe's Gecko		3

Family	Species	Common Name	Status	This survey
Birds				**Totals**
Pygopodidae	*Aprasia repens*	Sand-plain Worm Lizard		3
Pygopodidae	*Delma fraseri*	Frasier's Legless Lizard		2
Scincidae	*Cryptoblephorus buchananii*	Buchanan's Snake-eyed Skink		8
Scincidae	*Lerista distinguenda sp. Nov*	South-west Four-toed Lerista		4
Scincidae	*Menetia greyii*	Common Dwarf Skink		30
Scincidae	*Tiliqua rugosa*	Bobtail		21
Typhlopidae	*Anilios australis*	Southern Blind Snake		1
Varanidae	*Varanus tristis tristis*	Black-headed Monitor		9
Mammals				
Bovidae	*Ovis aries*	Sheep	Int	scat
Canidae	*Vulpes vulpes*	Red Fox	Int	24
Dasyuridae	*Sminthopsis dolichura*	Little Long-tailed Dunnart		1
Felidae	*Felis catus*	Cat	Int	2
Leporidae	*Oryctolagus cuniculus*	European Rabbit	Int	1
Macropodidae	*Macropus fuliginosus*	Western Grey Kangaroo		214
Macropodidae	*Macropus robusta*	Euro, Common Wallaroo		8
Molossidae	*Mormopterus kitcheneri*	South-western Free-tailed Bat		X
Molossidae	*Tadarida australis*	White-striped Freetail Bat		X
Muridae	*Mus musculus*	House Mouse	Int	4
Phalangeridae	*Trichosurus vulpecula*	Common Brushtail Possum		3
Tachyglossidae	*Tachyglossus aculeatus*	Echidna		1
Vespertilionidae	*Chalinolobus gouldii*	Gould's Wattle Bat		X
Vespertilionidae	*Chalinolobus morio*	Chocolate Wattle Bat		X
Vespertilionidae	*Nyctophilus geoffroyi or gouldii*	Long-eared Bats		X
Vespertilionidae	*Vespadelus regulus*	Southern Forest Bats		X

Table 21 Fauna likelihood of occurrence assessment guidelines

Assessment outcome	Description
Present	Species recorded during the field survey or from recent, reliable records from within or close proximity to the survey area.
Likely	Species are **likely** to occur in the survey area where there is suitable habitat within the survey area and there are recent records of occurrence of the species in close proximity to the survey area. OR Species known distribution overlaps with the survey area and there is suitable habitat within the survey area.
Unlikely	Species assessed as **unlikely** include those species previously recorded within 10 km of the survey area however: – There is limited (i.e. the type, quality and quantity of the habitat is generally poor or restricted) habitat in the survey area. – The suitable habitat within the survey area is isolated from other areas of suitable habitat and the species has no capacity to migrate into the survey area. OR Those species that have a known distribution overlapping with the survey area however: – There is limited habitat in the survey area (i.e. the type, quality and quantity of the habitat is generally poor or restricted). – The suitable habitat within the survey area is isolated from other areas of suitable habitat and the species has no capacity to migrate into the survey area.
Highly unlikely	Species that are considered **highly unlikely** to occur in the survey area include: – Those species that have no suitable habitat within the survey area. – Those species that have become locally extinct, or are not known to have ever been present in the region of the survey area.

Source information - desktop searches

NM – DBCA NatureMap (accessed July 2018)

PMST – DEE Protected Matters Search Tool (PMST) to identify fauna listed under the EPBC Act potentially occurring within study area (accessed Oct 2018)

Table 22 Definitions

Term	Description
study area	a 40 km buffer around the survey area
survey area	the area subject to the current survey
region	the area within an approximate 40 km radius of the survey area
Cr	Critically endangered
En	Endangered
Vu	Vulnerable
IA	International agreement
Mi, Ma	Migratory, Marine
CD	Conservation dependent
OS	Other specially protected fauna
P1 – P4	Priority 1 – Priority 4

Table 23 Fauna Likelihood of Occurrence Assessment

Taxonomy	Common Name	Status		Species Information	Likelihood of Occurrence	Source
		EPBC Act	WC Act/DBCA			
Birds						
Calidris acuminata	Sharp-tailed Sandpiper	Mi, Ma	IA	In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline saltlakes inland. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and creeks lined with mangroves. Sometimes they occur on rocky shores. They are widespread from Cape Arid to Carnarvon, around coastal and subcoastal plains of Pilbara Region to south-west and east Kimberley Division. Inland records indicate the species is widespread and scattered from Newman, east to Lake Cohen, south to Boulder and west to Meekatharra.	**Highly Unlikely.** The survey area has no suitable habitat for this species	DBCA
Calidris ferruginea	Curlew Sandpiper	Cr Mi	Cr, IA	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh, brackish waters and occasionally around floodwaters (DOTE 2016).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Calidris melanotos	Pectoral Sandpiper	Mi, Ma	IA	In Australia, the Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. The species is usually found in coastal or near coastal habitat but occasionally found further inland. It prefers wetlands that have open fringing mudflats and low, emergent or fringing vegetation, such as grass or samphire. The species has also been recorded in swamp overgrown with lignum (DotE 2016). The bird can be seen on the Swan Coastal Plain but is rare to scarce on Lake Thompson, and as well on any freshwater wetland in the southwest with shallow, well-grassed margins. They are seen at Lake Warden, Esperance, and at Lake McLarty (Nevill 2013).	**Highly Unlikely.** The survey area has no suitable habitat for this species	DBCA
Calyptorhynchus latirostris	Carnaby's Black Cockatoo	En	En	Carnaby's Cockatoo occurs in uncleared or remnant native eucalypt woodlands, especially those that contain salmon gum, wandoo, marri, jarrah and karri, and in shrubland or kwongan heathland dominated by Hakea, Dryandra, Banksia and Grevillea species. Breeding activity is restricted to eucalypt woodlands mainly in the semiarid and subhumid interior, from Kalbarri in the north, Three Springs District south to the Stirling Range, west to Cockleshell Gully and east to Manmanning. The species has expanded its breeding range westward and south into the jarrah-marri forests of the Darling Scarp and into the tuart forests of the Swan Coastal Plain, including the Yanchep area, Lake Clifton and near Bunbury.	**Known.** The species was observed during the survey. Feeding evidence and potential breeding areas are present in the survey area.	DBCA, EPBC
Apus pacificus	Fork-tailed swift	Mi, Ma	IA	In WA there are sparsely scattered records along the coast, ranging from the Eyre Bird Observatory and up the west coast. They are widespread in coastal and sub-coastal areas between Augusta and Carnarvon, including some on nearshore and offshore islands. The species is regularly seen in the Pilbara and Kimberley following cyclone and major storm activity. This species is almost exclusively aerial, flying less than 1 m to at least 300 m above ground. This species is considered rare in the south-west region (DotE 2016).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Tringa nebularia	Common Greenshank	Mi, Ma	IA	The Common Greenshank is found in a wide variety of inland wetlands and coastal habitats of varying salinity. It occurs in sheltered coastal areas typically with large mudflats and saltmarsh, mangroves or seagrass, including embayments, harbours, river estuaries, deltas and lagoons, but less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and saltflats, and artificial wetlands. They occur around most of the coast from Cape Arid in the south to Carnarvon in the north-west (DotE 2016).	**Highly Unlikely**. The survey area has no suitable habitat for this species	EPBC
Actitis hypoleucos	Common Sandpiper	Mi, Ma	IA	The Common Sandpiper is found along all coastlines of Australia and uses a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around often narrow and steep muddy margins or rocky shores. The species has been recorded in estuaries and deltas of streams, as well as on banks further upstream; around lakes, pools, mangroves, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties. It is often found near mangroves, and sometimes in areas of mud littered with rocks or snags. Found along all coastlines of Australia and in many areas inland, the Common Sandpiper is widespread in small numbers. The population when in Australia is concentrated in northern and Western Australia (DotE 2016).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Leipoa ocellata	Malleefowl	Vu	Vu	The Malleefowl generally occurs in semi-arid areas of Western Australia, from Carnarvon to south east of the Eyre Bird Observatory (south-east Western Australia). The Malleefowl is associated with long unburnt thick vegetation and occupies shrublands and low woodlands that are dominated by mallee vegetation, native pine Callitris woodlands, Acacia shrublands, Broombush vegetation or coastal heathlands. The breeding habitat is characterised by light soil and an abundant leaf litter, which is used in the construction of nesting mounds (Frith 1959; Marchant & Higgins 1993). The nest is a conspicuous large mound of sand or soil and organic matter (Jones and Goth 2008, Morcombe 2004).	**Unlikely.** Although this species is wide spread, populations are patchily disbursed and in this region persist in dense low shrubland of Mallee and Acacia. No habitat was considered suitable for this species due to its	DBCA, EPBC

Taxonomy	Common Name	Status		Species Information	Likelihood of Occurrence	Source
		EPBC Act	WC Act/DBCA			
					fragmented nature and no evidence of the species was recorded.	
Numenius madagascariensis	Eastern Curlew	Cr Mi	Cr, IA	The Eastern Curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. The birds are often recorded among saltmarsh and on mudflats fringed by mangroves, sometimes within the mangroves, and in coastal saltworks and sewage farms (Marchant & Higgins 1993). They are found commonly along the north coast of WA, but rarely south of Shark Bay (Morcombe 2004). They are uncommon further south of Geraldton (Nevill 2013).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Motacilla cinerea	Grey Wagtail	Mi	IA	The Grey Wagtail is an opportunistic migrant to Australia. The species typically migrates to Indonesia occasionally landing in Australia. Most records for the species are from Northern Australia and South Australia (Morcombe 2004). The non-breeding habitat only of the Grey Wagtail has a strong association with water, particularly rocky substrates along water courses but also lakes and marshes (DotE 2016). It can be found mainly in banks and rocks in fast-running freshwater habitats: rivers, creeks, streams, and around waterfalls, both in forest and open country; but occurs almost anywhere during migration (Johnstone & Storr 2004).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Oxyura australis	Blue-billed Duck		P4	The blue-billed duck is a small Australian almost entirely aquatic duck (Morcombe 2004). The blue-billed duck is endemic to Australia's temperate regions, ranging from the south west of WA, extending to southern Queensland, through NSW and Victoria, to Tasmania. The species is readily seen on freshwater lakes and billabongs where deep fresh water is present (Morcombe 2004).	**Highly Unlikely.** The survey area has no suitable habitat for this species	DBCA
Falco peregrinus	Peregrine Falcon		OS	The Peregrine Falcon is seen occasionally anywhere in the south-west of WA. It is found everywhere from woodlands to open grasslands and coastal cliffs - though less frequently in desert regions. The species nests primarily on ledges of cliffs, shallow tree hollows, and ledges of building in cities. (Morcombe, 2004).	**Likely.** Species is known from the region, however use would be opportunistic and utilised for foraging purposes only. No breeding habitat was present.	DBCA
Pezoporus occidentalis	Night Parrot	En	Cr	The Night Parrot inhabits arid and semi-arid areas that are characterized by having dense, low vegetation. Based on accepted and recent records, the habitat of the Night Parrot consists of Triodia grasslands in stony or sandy environments and of samphire and chenopod shrublands, on floodplains and claypans, and on the margins of salt lakes, creeks or other sources of water. The distribution of the Night Parrot is very poorly understood however recent observations have recorded the species near to Lorna Glen (East of Wiluna), Pilbara and southern Kimberley.	**Highly Unlikely.** The species is not known to persist in the region. No habitat was present for this species to persist.	DBCA
Platycercus icterotis subsp. xanthogenys	Western Rosella		P4	The wheatbelt subspecies of Western Rosella lives in woodland, and its persistence is associated with habitat remnants. The main food of the western subspecies is the seeds of casuarinas, but it also takes seeds from grass, weedy herbs and fruit. Nesting of this subspecies is in hollows.	**Unlikely.** The species was not recorded during the survey and very little Eucalyptus Woodland with hollows is present suitable for the species. Feeding habitat is present and may be utilised opportunistically.	DBCA
Rostratula australis	Australian Painted Snipe	En	En	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum Muehlenbeckia, canegrass, or sometimes tea-tree. It sometimes uses areas that are lined with trees, or that have some scattered fallen or washed-up timber (DotE 2016). In the south west it can be found around Carnarvon and wetlands north of Perth, particularly those west of Moora and Gin Gin (Nevill 2013).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Reptiles						
Egernia stokesii subsp. badia	Western Spiny-tailed Skink	En	Vu	The Western Spiny-tailed Skink (brown form) was originally known from a limited number of sites in the northern and central wheatbelt of Western Australia. Most records of the brown form Western Spiny-tailed Skink are in York Gum (*Eucalyptus loxophleba*) woodland with some records in Gimlet (*E. salubris*) and Salmon Gum (*E. salmonophloia*) woodland. Populations persist in woodland patches as small as one hectare and completely surrounded by wheatfields. Sites with the greatest number of individuals contain numerous fallen logs and were subjected to low-intensity grazing by domestic stock. Hollow logs are used as refuge sites in woodland habitat. Preferred refuges consist of piles of several, overlapping, hollow logs providing a combination of basking and shelter sites. An increasing number of skinks are being located in altered habitat under piles of wood, scrap metal or under buildings on private property (DotE 2016).	**Unlikely.** The species was not recorded during the survey and very little Eucalyptus Woodland with suitable micro habitats were available.	DBCA, EPBC
Fishes						
Nannatherina balstoni	Balston's Pygmy Perch	V	V	Balston's Pygmy Perch inhabits acidic, tannin-stained freshwater pools, streams and lakes in peat flats within 30 km of the coast of south-west Western Australia, preferring shallow water, and commonly associated with tall sedge thickets and inundated riparian vegetation (Allen et al. 2002).	**Highly Unlikely.** The survey area has no suitable habitat for this species	EPBC
Mammals						

Taxonomy	Common Name	Status		Species Information	Likelihood of Occurrence	Source
		EPBC Act	WC Act/DBCA			
Hydromys chrysogaster	Water-rat, Rakali		P4	Water-rats live primarily in a wide variety of freshwater habitats, from sub-alpine streams and other inland waterways to lakes, swamps, farm dams and irrigation channels and are thought to be one of the few native species to have at least partially benefited from human encroachment (Gardner and Serena, 1995).	**Highly Unlikely.** The survey area has no suitable habitat for this species	DBCA
Dasyurus geoffroii	Chuditch	Vu	Vu	The Chuditch inhabits eucalypt forest (especially Jarrah), dry woodland and mallee shrublands of semi arid environs. In the Avon Region the species is known from forest around Mundaring, Toodyay and pockets of areas around the Swan Valley. There is a population persisting around the Julimar Forest and this would be the closest population to the survey area. This population is a translocated and monitored population that primarily persists within the large and intact remnant forest in the area. Although this species can travel large distances and has a large home range it is highly unlikely to be present in the Moora region due to the region being highly fragmented and unmanaged (for predators).	**Highly unlikely.** The species has not been recorded in the survey area and the species is considered regionally extinct.	EPBC

Table 24 Species recorded on Remote Camera 2018

Species	Common Name	Status										
Birds			Cam G2	Cam GG	Cam 30	Cam 77	Cam 43	Cam 41	Cam 77D	Cam 42	Cam 44	Cam 45
Anus gracilis	Grey Teal								11			
Ardea pacifica	White-necked Heron								2			
Egretta novaehollandiae	White-faced Heron								5			
Cracticus tiibicen	Australian Magpie						1					
Eolophus roseicapilla	Galah								2			
Phaps chalcoptera	Common Bronzewing						1	3	1			3
Corvus coronoides	Australian Raven								5		1	
Grallina cyanoleuca	Magpie-lark								5			
Coturnix ypsilophora	Brown Quail											1?
Reptiles												
Tiliqua rugosa	Bobtail					1	4	1				
Mammals												
Vulpes vulpes	Red Fox	int	1		1	2	3		3			2
Felis catus	Cat	int					1					
Macropus fuliginosus	Western Grey Kangaroo		7	3	1	7	11	15	15	3	3	4
Macropus robusta	Euro				3					1		1
Mus musculus	House Mouse	int									1	2
Trichosurus vulpecula	Common Brushtail Possum							3				
Tachyglossus aculeatus	Echidna							1				

Table 25 Trapping data per site 2018

Family	Species	Common Name	Status	Trap Site 1					Trap Site 2					Trap Site 3					Trap Site 4					Trap Site 5					Trap Site 6					Trap Site 7	Active search area 1	Active search area 2	Active search area 3	Active search area 4	Active search area 5	Active search area 6	Active search area 7	Opp.	Totals
Birds				Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Cage Traps									
Acanthizidae	*Acanthiza apicalis*	Inland Thornbill									4					20														4										6	34
Acanthizidae	*Acanthiza chrysorrhoa*	Yellow-rumped Thornbill				4					11					4														8								4			8	39
Acanthizidae	*Acanthiza uropygialis*	Chestnut-rumped Thornbill														10					6																				6	22
Acanthizidae	*Smicrornis brevirostris occidentalis*	Weebill									8										10				28										6	8		4			9	73
Acanthizidae	*Pyrrholaemus brunneus*	Redthroat									1																													1	2
Accipitridae	*Accipiter cirrocephalus*	Collared Sparrowhawk									1																													1	2
Accipitridae	*Accipiter fasciatus*	Brown Goshawk				1										1																								1	3
Accipitridae	*Aquila audax*	Wedge-tailed Eagle														2					1										1									1	5
Artamidae	*Artamus cinereus*	Black-faced Woodswallow				4																													4					6	14
Artamidae	*Cracticus tiibicen dorsalis*	Australian Magpie				4					6										3									4							4			6	8	35
Artamidae	*Cracticus nigrogularis*	Pied Butcherbird									3													2					4						1		1				11
Artamidae	*Cracticus torquatus*	Grey Butcherbird				1					1																						2							1	5
Cacatuidae	*Cacatua pastinator butleri*	Western Corella				2																								2										2	6
Cacatuidae	*Cacatua sanguinea*	Little Corella																												2										2	4
Cacatuidae	*Calyptorhynchus latirostris*	Carnaby's Black Cockatoo	En, En			3					5																													11	19
Cacatuidae	*Eolophus roseicapilla*	Galah				10					4					18					5				18					4				2	2		2			16	81
Cacatuidae	*Nymphicus hollandicus*	Cockatiel														6																		4				4		4	18
Campephagidae	*Coracina novaehollandiae*	Black-faced Cuckoo-shrike				1					2					3					1				7					3				2	1			2	1		23
Campephagidae	*Lalage sueurii*	White-winged Triller																																	4						8	12
Casuariidae	*Dromaius novaehollandiae*	Emu																																							1	1
Columbidae	*Ocyphaps lophotes*	Crested Pigeon				2					1										1																				4	8
Columbidae	*Phaps chalcoptera*	Common Bronzewing				1					1					1														1									1		4	9
Corvidae	*Corvus coronoides perplexus*	Australian Raven				2					3					2														2				2							8	19

Family	Species	Common Name	Status	Trap Site 1					Trap Site 2					Trap Site 3					Trap Site 4					Trap Site 5					Trap Site 6					Trap Site 7	Active search area 1	Active search area 2	Active search area 3	Active search area 4	Active search area 5	Active search area 6	Active search area 7	Opp.	Totals
Birds				Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Cage Traps									
Cuculidae	*Cacomantis pallidus*	Pallid Cuckoo																												1							1			1	3
Falconidae	*Falco cenchroides cenchroides*	Nankeen Kestrel				1																											1						1		2	5
Falconidae	*Falco longipennis*	Hobby Falcon									1																			1					1						1	4
Falconidae	*Falco berigora*	Brown Falcon																																							2	2
Halcyonidae	*Todiramphus sanctus*	Sacred Kingfisher									1																														2	3
Halcyonidae	*Todiramphus pyrrhopygius*	Red-backed Kingfisher																																							1	1
Hirundinidae	*Petrochelidon nigricans*	Tree Martin									2																														3	5
Hirundinidae	*Cheramoeca leucosterna*	White-backed Swallow																																							4	4
Maluridae	*Malurus splendens*	Splendid Fairy-wren														4																										4
Maluridae	*Malurus lamberti*	Variegated Fairy-wren																																							6	6
Meliphagidae	*Manorina flavigula*	Yellow-throated Miner																																							2	2
Meliphagidae	*Anthochaera carunculata*	Red Wattlebird									2					1																2					1			3			4	13
Meliphagidae	*Lichenostomus leucotis*	White-eared Honeyeater									3																															2	5
Meliphagidae	*Lichenostomus virescens virescens*	Singing Honeyeater				1					6					1					2					2					1										4	17
Meliphagidae	*Lichmera indistincta*	Brown Honeyeater				2					5					12					2					2					2					2	3				4	34
Meliphagidae	*Melithreptus brevirostris*	Brown-headed Honeyeater																																							4	4
Meliphagidae	*Glyciphila melanops*	Tawny-crowned Honeyeater																																							2	2
Meliphagidae	*Purnella albifrons*	White-fronted Honeyeater														2																										2	7
Monarchidae	*Grallina cyanoleuca*	Magpie-lark									1																																7
Megaluridae	*Cincloramphus mathewsi*	Rufous Songlark																																							1	1
Megaluridae	*Cincloramphus cruralis*	Brown Songlark																																							3	3
Motacillidae	*Anthus novaeseelandiae*	Richards Pipit				6																																		1	9	16
Nectariniidae	*Dicaeum hirundinaceum*	Mistletoebird														1																									1		2	4
Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella																																							4	4

Family	Species	Common Name	Status	Trap Site 1					Trap Site 2					Trap Site 3					Trap Site 4					Trap Site 5					Trap Site 6					Trap Site 7	Active search area 1	Active search area 2	Active search area 3	Active search area 4	Active search area 5	Active search area 6	Active search area 7	Opp.	Totals
Birds				Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Cage Traps									
Pachycephalidae	*Colluricincla harmonica*	Grey Shrike-thrush				1					2					1					3					1					1										2	11
Pachycephalidae	*Pachycephala rufiventris*	Rufous Whistler				1					2					4					2					3					2							1				6	21
Pardalotidae	*Pardalotus striatus*	Striated Pardalote																								3																2	5
Petroicidae	*Petroica goodenovii*	Red-capped Robin				1					3					5					5					2										1			3	2	4	26
Phasianidae	*Coturnix ypsilophora*	Brown Quail				1					4																															12	17
Pomatostomidae	*Pomatostomus superciliosus*	White-browed Babbler																																							nests	nests
Psittacidae	*Barnadius zonarius semitorquatus*	Australian Ringneck				2					2					4					6					4					2					2		2	2			8	34
Psittacidae	*Polytelis anthopeplus*	Regent Parrot																			8																					12	20
Rhipiduridae	*Rhipidura leucophrys leucophrys*	Willie Wagtail									1																				1											1	3
Strigidae	*Ninox novaeseelandiae*	Boobook Owl																												1	1											1	3
Timaliidae	*Zosterops lateralis*	Silvereye									6					8					6																						7	27
Turnicidae	*Turnix velox*	Little Button Quail																																									2	2
Reptiles																																												
Agamidae	*Pogona minor*	Western Bearded Dragon			1				3					1	1				1																		1							8
Agamidae	*Ctenophorus reticulatus*	Western Netted Dragon																																								1	1
Diplodactylidae	*Diplodactylus granariensis*	Western Stone Gecko		7					2					2					1			1																					13
Elapidae	*Brachyurophis semifasciatus*	Southern Shovel-nosed Snake												1																													1
Elapidae	*Demansia psammophis reticulata*	Reticulated Whip Snake																	1																								1
Elapidae	*Pseudechis australis*	Mulga Snake																																								1	1
Elapidae	*Peudonaja mengdeni*	Gwardar																																								1	1
Elapidae	*Simoselaps bertholdi*	Jan's Banded Snake																	1																								2
Gekkonidae	*Gehyra variegata*	Tree Dtella		1					4	3		7		3	5		6		3	2		2		2					4		3			1		3	6				55
Gekkonidae	*Heteronotia binoei*	Binoe's Gecko																		1		1															1						3

Family	Species	Common Name	Status	Trap Site 1					Trap Site 2					Trap Site 3					Trap Site 4					Trap Site 5					Trap Site 6					Trap Site 7	Active search area 1	Active search area 2	Active search area 3	Active search area 4	Active search area 5	Active search area 6	Active search area 7	Opp.	Totals
Birds				Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Traps	Active search	Bird Cencus	Noct. Search	Bat Census	Cage Traps									
Pygopodidae	*Aprasia repens*	Sand-plain Worm Lizard		1															1																	1					3
Pygopodidae	*Delma fraseri*	Frasier's Legless Lizard							1					1																											2
Scincidae	*Cryptoblephorus buchananii*	Buchanan's Snake-eyed Skink			1					2														1	1				3												8
Scincidae	*Lerista distinguenda sp. Nov*	South-west Four-toed Lerista																	1	1																	2					4
Scincidae	*Menetia greyii*	Common Dwarf Skink			1				5	2				5	1				1	5									4							4	2				30
Scincidae	*Tiliqua rugosa*	Bobtail		1						2				2	2										1								3	2			1	1			6	21
Typhlopidae	*Anilios australis*	Southern Blind Snake							1																																1
Varanidae	*Varanus tristis tristis*	Black-headed Monitor		2										1										1												1				4	9
Mammals																																									
Bovidae	*Ovis aries*	Sheep	int		sca t					scat					sc at					sca t					sca t					sca t											scat
Canidae	*Vulpes vulpes*	Red Fox	int		1							2					1					1				1				1		1			sca t				4	12
Dasyuridae	*Sminthopsis dolichura*	Little Long-tailed Dunnart		1																																				1
Felidae	*Felis catus*	Cat	int																																				print s	print s
Leporidae	*Oryctolagus cuniculus*	European Rabbit	int							1, scat		1																							sca t			sca t				1
Macropodidae	*Macropus fuliginosus*	Western Grey Kangaroo			27					10		21			8		16			6		5		2		4				4			sca t	3	6	4	2	3	4	10	135
Macropodidae	*Macropus robusta*	Euro															1												1		1									3
Molossidae	*Mormopterus kitcheneri*	South-western Free-tailed Bat																2					5				7					9									23
Molossidae	*Tadarida australis*	White-striped Freetail Bat						10					158					32					25				155				1	76				56					513
Muridae	*Mus musculus*	House Mouse	int	1																																				1
Tachyglossidae	*Tachyglossus aculeatus*	Echidna													digs														digs											digs
Vespertilionidae	*Chalinolobus gouldii*	Gould's Wattle Bat						4					19					4					15				43					125				3					213
Vespertilionidae	*Chalinolobus morio*	Chocolate Wattle Bat											1					2					1				6					2									12
Vespertilionidae	*Nyctophilus geoffroyi or gouldii*	Long-eared Bats																1									8					17				3					29
Vespertilionidae	*Vespadelus regulus*	Southern Forest Bats											1																			19									20

Appendix E

2024 Additional Black Cockatoo assessment

Foraging tool template		Starting score	Carnaby's Cockatoo
		10	Start at a score of 10 if your site is native shrubland, Kwongan heathland or woodland, dominated by proteaceous plant species such as Banksia spp. (including Dryandra spp.), Hakea spp. and Grevillea spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. This tool only applies to sites equal to or larger than 1 hectare in size.
		Attribute/score subtraction	
		Foraging potential (-2)	Subtract 2 from your score if there is no evidence of feeding debris on your site.
		Connectivity (-2)	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.
		Proximity to breeding (-2)	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.
		Proximity to roosting (-1)	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.
		Impact from significant plant disease (-1)	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.
	Dominant species (not all foraging species)	**Attribute/score subtraction**	**Carnaby's Cockatoo**
Aa1	*Acacia acuminata subsp. acuminata*	Starting score	10
	Cheilanthes adiantoides	Foraging potential (-2)	8
	Hypoxis sp.	Connectivity (-2)	7
	Gilberta tenuifolia	Proximity to breeding (-2)	6
	Podolepis lessonii	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Aa2	*Acacia acuminata subsp. acuminata*	Starting score	10
	Xanthorrhoea drummondii	Foraging potential (-2)	8
	Gilberta tenuifolia	Connectivity (-2)	7
	Podolepis lessonii	Proximity to breeding (-2)	6

	Waitzia nitida	Proximity to roosting (-1)	5
	Cheilanthes adiantoides	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score : 3**
Aa3	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	8
	Cheilanthes adiantoides	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AaAc2	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Cheilanthes adiantoides	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AaDs1	*Opercularia vaginata*	Starting score	10
		Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 2**

AaEl3	*Acacia acuminata subsp. acuminata*	Starting score	10
	Eucalyptus loxophleba subsp. loxophleba	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal with adjusted score	**Score: 7**
AaHr1	*Acacia acuminata subsp. acuminata*	Starting score	10
	Hakea recurva ssp. recurva	Foraging potential (-2)	8
	Borya sphaerocephala	Connectivity (-2)	7
	Eremophyllum tenellum	Proximity to breeding (-2)	6
	Waitzia nitida	Proximity to roosting (-1)	5
	Cheilanthes adiantoides	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AaHs1	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	10
	Eucalyptus loxophleba subsp. loxophleba	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
	Lepidosperma tenue	Impact from significant plant disease (-1)	7
	Neurachne alopecuroidea	Total score	7
	Cheilanthes adiantoides	Appraisal and adjusted score	**Score: 7**
A	*Allocasuarina huegeliana*	Starting score	10

	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Pityrodia dilatata	Proximity to breeding (-2)	6
	Stypandra glauca	Proximity to roosting (-1)	5
	Trymalium ledifolium var. rosmarinifolium	Impact from significant plant disease (-1)	5
	Hibbertia subvaginata	Total score	5
	Cheilanthes adiantoides	Appraisal and adjusted score	**Score: 3**
AaKp1/AhTl2/AhAc3	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Pityrodia dilatata	Proximity to breeding (-2)	6
	Stypandra glauca	Proximity to roosting (-1)	5
	Trymalium ledifolium var. rosmarinifolium	Impact from significant plant disease (-1)	5
	Hibbertia subvaginata	Total score	5
	Cheilanthes adiantoides	Appraisal and adjusted score	**Score: 3**
	Eucalyptus loxophleba subsp. loxophleba		
	Allocasuarina campestris		
	Calytrix leschenaultii		
	Borya sphaerocephala		
AaMr1	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Melaleuca radula	Proximity to breeding (-2)	6
	Neurachne alopecuroidea	Proximity to roosting (-1)	5
	Opercularia vaginata	Impact from significant plant disease (-1)	5

	Dichopogon capillipes	Total score	5
		Appraisal and adjusted score	**Score: 3**
AaMr2	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Melaleuca radula	Connectivity (-2)	9
	Schoenus clandestinus	Proximity to breeding (-2)	8
	Borya sphaerocephala	Proximity to roosting (-1)	7
	Cheilanthes adiantoides	Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ac1	*Allocasuarina campestris*	Starting score	10
	Borya sphaerocephala	Foraging potential (-2)	8
	Cheilanthes adiantoides	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac1/Ac4	*Allocasuarina campestris*	Starting score	10
	Borya sphaerocephala	Foraging potential (-2)	8
	Cheilanthes adiantoides	Connectivity (-2)	7
	Allocasuarina huegeliana	Proximity to breeding (-2)	6
	Acacia acuminata subsp. acuminata	Proximity to roosting (-1)	5
	Neurachne alopecuroidea	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**

Ac2	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Cheilanthes adiantoides	Connectivity (-2)	7
	Borya sphaerocephala	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac3	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina huegeliana	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Borya sphaerocephala	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac4	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Neurachne alopecuroidea	Proximity to breeding (-2)	6
	Cheilanthes adiantoides	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac4/Aa	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8

	Allocasuarina campestris	Connectivity (-2)	7
	Neurachne alopecuroidea	Proximity to breeding (-2)	6
	Cheilanthes adiantoides	Proximity to roosting (-1)	5
	Xanthorrhoea drummondii	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac5	*Allocasuarina campestris*	Starting score	10
	Calytrix depressa	Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac7	*Allocasuarina campestris*	Starting score	10
	Melaleuca calyptroides	Foraging potential (-2)	8
	Calytrix leschenaultii	Connectivity (-2)	7
	Stylidium septentrionale	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ac8	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5

		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcAh1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcAh2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcAhu1	*Dryandra sessilis var. sessilis*	Starting score	10
	Allocasuarina humilis	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
	Hibbertia subvaginata	Proximity to breeding (-2)	8
	Thomasia grandiflora	Proximity to roosting (-1)	7
	Xanthosia fruticulosa	Impact from significant plant disease (-1)	7
	Dichopogon capillipes	Total score	7
	Regelia megacephala	Appraisal and adjusted score	**Score: 8**

	Calothamnus aff. quadrifidus Moora-Watheroo		
	Cheilanthes adiantoides		
	Xanthorrhoea drummondii		
AcAs1	*Acacia scirpifolia*	Starting score	10
	Acacia saligna	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
	Calothamnus aff. quadrifidus Moora-Watheroo	Proximity to breeding (-2)	8
	Melaleuca calyptroides	Proximity to roosting (-1)	7
	Acacia congesta subsp. congesta	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Desmocladus flexuosus	Appraisal and adjusted score	**Score: 7**
	Stylidium septentrionale		
	Baeckea crispiflora		
	Trachymene ornata		
	Hakea lissocarpha		
	Dichopogon capillipes		
	Chamaescilla corymbosa var. corymbosa		
	Neurachne alopecuroidea		
	Lepidobolus chaetocephalus		
	Allocasuarina huegeliana		
	Stypandra glauca,		
	Acacia restiacea		
Ac	*Acacia acuminata subsp. acuminata,*	Starting score	10

	Allocasuarina huegeliana	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Melaleuca radula	Proximity to breeding (-2)	6
	Schoenus clandestinus	Proximity to roosting (-1)	5
	Neurachne alopecuroidea	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcB1/AcMr2/AcB3	*Acacia acuminata subsp. acuminata,*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Melaleuca radula	Proximity to breeding (-2)	6
	Schoenus clandestinus	Proximity to roosting (-1)	5
	Neurachne alopecuroidea	Impact from significant plant disease (-1)	5
	Allocasuarina campestris	Total score	5
	Calothamnus aff. quadrifidus Moora-Watheroo	Appraisal and adjusted score	**Score: 3**
	Melaleuca radula		
	Calytrix leschenaultii		
	Astroloma serratifolium		
	Allocasuarina campestris		
	Baeckea sp. Moora (R. Bone 1993/1)		
	Melaleuca calyptroides		
	Stylidium septentrionale		
	Borya sphaerocephala		
	Schoenus clandestinus		
	Stypandra glauca		
	Baeckea crispiflora		

	Hakea incrassata		
	Pimelea imbricata var. piligera		
	Lepidobolus chaetocephalus		
	Trachymene cyanopetala		
	Calytrix leschenaultia		
AcB2	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to breeding (-2)	6
	Baeckea crispiflora var. tenuior	Proximity to roosting (-1)	5
	Calytrix leschenaultii	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcB2/RmKpMc3/AcB4/Ac	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to breeding (-2)	8
	Baeckea crispiflora var. tenuior	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
	Regelia megacephala	Total score	7
	Kunzea praestans	Appraisal and adjusted score	**Score: 8**
	Dryandra sessilis var. sessilis		
	Melaleuca calyptroides		

	Hibbertia subvaginata		
	Xanthorrhoea drummondii		
AcB3	*Baeckea sp. Moora (R. Bone 1993/1)*	Starting score	10
	Melaleuca calyptroides	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcB4	*Allocasuarina huegeliana*	Starting score	10
	Dryandra sessilis var. sessilis	Foraging potential (-2)	10
	Xanthorrhoea drummondii	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to roosting (-1)	7
	Melaleuca calyptroides	Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
AcB5/B1	*Allocasuarina huegeliana*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Baeckea sp. Moora (R.Bone 1993/1)	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Schoenus clandestinus	Impact from significant plant disease (-1)	5
	Neurachne alopecuroidea	Total score	5

	Borya sphaerocephala	Appraisal and adjusted score	**Score: 3**
	Goodenia hassallii		
	Tricoryne arenicola		
	Lawrencella rosea		
	Leptibolous chaetocephalus		
	Melaleuca radula		
AcCq2	*Allocasuarina campestris*	Starting score	10
	Acacia congesta subsp. congesta, Calothamnus aff. quadrifidus Moora-Watheroo	Foraging potential (-2)	8
	Melaleuca calyptroides	Connectivity (-2)	7
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Melaleuca calyptroides	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcCq3/KpAhB1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Santalum acuminatum	Connectivity (-2)	9
	Dryandra sessilis var. sessilis	Proximity to breeding (-2)	8
	Allocasuarina campestris	Proximity to roosting (-1)	7
	Calothamnus aff. quadrifidus Moora-Watheroo	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Hakea lissocarpha	Appraisal and adjusted score	**Score: 8**
	Astroloma serratifolium		

	Desmocladus flexuosus		
	Lepidobolus chaetocephalus		
	Schoenus clandestinus		
	Stypandra glauca		
	Stylidium septentrionale		
	Borya sphaerocephala		
	Acacia aristulata		
	Kunzea praestans		
	Baeckea sp. Moora (R. Bone 1993/1)		
	Lawrencella rosea		
	Xanthorrhoea drummondii		
	Regelia megacephala		
	Melaleuca calyptroides		
	Baeckea sp. Moora (R. Bone 1993/1)		
	Hibbertia subvaginata		
AcDs2	Allocasuarina huegeliana	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Kunzea praestans	Proximity to roosting (-1)	7
	Xanthorrhoea drummondii	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
		Appraisal and adjusted score	**Score: 8**
AcDs3	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8

	Dryandra sessilis var. sessilis	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Melaleuca radula	Proximity to roosting (-1)	5
	Xanthorrhoea drummondii	Impact from significant plant disease (-1)	5
	Calytrix leschenaultii	Total score	5
		Appraisal and adjusted score	**Score: 3**
AcDs4	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	8
	Dryandra sessilis var. sessilis	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Xanthorrhoea drummondii	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcEe1	*Eucalyptus eudesmioides*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Regelia megacephala	Proximity to breeding (-2)	6
	Melaleuca calyptroides	Proximity to roosting (-1)	5
	Baeckea sp. Moora (R. Bone 1993/1)	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcEe1/EeRm	*Eucalyptus eudesmioides*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Regelia megacephala	Proximity to breeding (-2)	6

	Melaleuca calyptroides	Proximity to roosting (-1)	5
	Baeckea sp. Moora (R. Bone 1993/1)	Impact from significant plant disease (-1)	5
	Calothamnus aff. quadrifidus Moora-Watheroo	Total score	5
	Alyogyne huegelii ssp. grossulariifolia	Appraisal and adjusted score	**Score: 3**
	Acacia congesta subsp. congesta		
	Hibbertia subvaginata		
	Bossiaea sp. Cairn Hill (M Henson CH2-28)		
	Lepidosperma tenue		
AcEe2	*Eucalyptus eudesmioides*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Baeckea sp. Moora (R. Bone 1993/1)	Connectivity (-2)	7
	Calytrix leschenaultii	Proximity to breeding (-2)	6
	Lepidosperma leptostachyum	Proximity to roosting (-1)	5
	Stylidium septentrionale	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcEe2/AcB3	*Eucalyptus eudesmioides*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Baeckea sp. Moora (R. Bone 1993/1)	Connectivity (-2)	7
	Calytrix leschenaultii	Proximity to breeding (-2)	6
	Lepidosperma leptostachyum	Proximity to roosting (-1)	5
	Stylidium septentrionale	Impact from significant plant disease (-1)	5
	Melaleuca calyptroides	Total score	5

	Borya sphaerocephala	Appraisal and adjusted score	**Score: 3**
AcEl1	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	10
	Acacia acuminata subsp. acuminata	Connectivity (-2)	9
	Neurachne alopecuroidea	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
AcEl2	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	10
	Lepidosperma tenue	Connectivity (-2)	9
	Neurachne alopecuroidea	Proximity to breeding (-2)	8
	Borya sphaerocephala	Proximity to roosting (-1)	7
	Cheilanthes adiantoides	Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
AcEw1	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	10
	Podolepis lessonii	Connectivity (-2)	9
	Dichopogon capillipes	Proximity to breeding (-2)	8
	Cheilanthes adiantoides	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ac	*Eucalyptus wandoo subsp. wandoo*	Starting score	10

	Allocasuarina campestris	Foraging potential (-2)	10
	Calothamnus aff. quadrifidus Moora-Watheroo	Connectivity (-2)	9
	Desmocladus flexuosus	Proximity to breeding (-2)	8
	Melaleuca calyptroides	Proximity to roosting (-1)	7
	Acacia congesta subsp. congesta	Impact from significant plant disease (-1)	7
	Desmocladus flexuosus	Total score	7
		Appraisal and adjusted score	**Score: 7**
AcEw3	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Allocasuarina huegeliana	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Borya sphaerocephala	Proximity to roosting (-1)	7
	Stypandra glauca	Impact from significant plant disease (-1)	7
	Cheilanthes adiantoides	Total score	7
	Stylidium septentrionale	Appraisal and adjusted score	**Score: 7**
AcEw4	*Kunzea praestans*	Starting score	10
	Melaleuca calyptroides	Foraging potential (-2)	8
	Xanthosia fruticulosa	Connectivity (-2)	7
	Stypandra glauca	Proximity to breeding (-2)	6
	Trymalium ledifolium subsp. rosmarinifolium	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcHs	*Allocasuarina campestris*	Starting score	10
	Hibbertia subvaginata	Foraging potential (-2)	8

	Calytrix leschenaultii	Connectivity (-2)	7
	Xanthorrhoea drummondii	Proximity to breeding (-2)	6
	Desmocladus flexuosus	Proximity to roosting (-1)	5
	Neurachne alopecuroidea	Impact from significant plant disease (-1)	5
	Stypandra glauca	Total score	5
	Stylidium septentrionale	Appraisal and adjusted score	**Score: 3**
AcHs2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Eucalyptus loxophleba subsp. loxophleba	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
AcHs2/Ac4	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Eucalyptus loxophleba subsp. loxophleba	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
	Neurachne alopecuroidea	Total score	7
	Cheilanthes adiantoides	Appraisal and adjusted score	**Score: 7**
Acld1	*Allocasuarina campestris*	Starting score	10
	Xanthorrhoea drummondii	Foraging potential (-2)	10
	Isopogon divergens	Connectivity (-2)	9
	Melaleuca calyptroides	Proximity to breeding (-2)	8

	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
	Dryandra fraseri	Total score	7
		Appraisal and adjusted score	**Score: 5**
AcId2	*Allocasuarina huegeliana*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Isopogon divergens	Proximity to roosting (-1)	5
	Calytrix leschenaultii	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcId3	*Allocasuarina campestris*	Starting score	10
	Isopogon divergens	Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcMr1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Melaleuca radula	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Astroloma serratifolium	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**

AcMr2	*Allocasuarina campestris*	Starting score	10
	Calothamnus aff. quadrifidus Moora-Watheroo	Foraging potential (-2)	8
	Melaleuca radula	Connectivity (-2)	7
	Calytrix leschenaultii	Proximity to breeding (-2)	6
	Astroloma serratifolium	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AcMr3	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Melaleuca radula	Connectivity (-2)	7
	Neurachne alopecuroidea	Proximity to breeding (-2)	6
	Cheilanthes adiantoides	Proximity to roosting (-1)	5
	Trachymene ornata	Impact from significant plant disease (-1)	5
	Chamaescilla corymbosa var. corymbosa	Total score	5
	Millotia tenuifolia var. tenuifolia	Appraisal and adjusted score	**Score: 3**
AcRm1	*Regelia megacephala*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Neurachne alopecuroidea	Connectivity (-2)	7
	Borya sphaerocephala	Proximity to breeding (-2)	6
	Chamaescilla corymbosa var. corymbosa	Proximity to roosting (-1)	5
	Lawrencella rosea	Impact from significant plant disease (-1)	5
	Burchardia umbellata	Total score	5
		Appraisal and adjusted score	**Score: 3**
A	*Santalum acuminatum*	Starting score	10

	Calothamnus aff. quadrifidus Moora Watheroo	Foraging potential (-2)	8
	Regelia megacephala	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Lepidosperma tenue	Proximity to roosting (-1)	5
	Stypandra glauca	Impact from significant plant disease (-1)	5
	Dichopogon capillipes	Total score	5
		Appraisal and adjusted score	**Score: 3**
AcRm3	*Allocasuarina huegeliana*	Starting score	10
	Calothamnus aff. quadrifidus Moora Watheroo	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Allocasuarina campestris	Proximity to roosting (-1)	5
	Regelia megacephala	Impact from significant plant disease (-1)	5
	Stypandra glauca	Total score	5
		Appraisal and adjusted score	**Score: 3**
AcRm4	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Regelia megacephala	Connectivity (-2)	7
	Ricinocarpos muricatus	Proximity to breeding (-2)	6
	Vulpia myuros	Proximity to roosting (-1)	5
	Avena barbata	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ah1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10

	Allocasuarina campestris	Connectivity (-2)	9
	Crassula colorata	Proximity to breeding (-2)	8
	Eucalyptus loxophleba subsp. loxophleba	Proximity to roosting (-1)	7
	Acacia acuminata subsp. acuminata	Impact from significant plant disease (-1)	7
	Avena barbata	Total score	7
	Ehrharta longiflora	Appraisal and adjusted score	**Score: 7**
Ah2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Neurachne alopecuroidea	Proximity to roosting (-1)	5
	Lepidosperma tenue	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Ah4	*Allocasuarina huegeliana*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Xanthosia fruticulosa	Proximity to roosting (-1)	5
	Neurachne alopecuroidea	Impact from significant plant disease (-1)	5
	Desmocladus flexuosus	Total score	5
	Stypandra glauca	Appraisal and adjusted score	**Score: 3**
AhAc1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Eucalyptus loxophleba subsp. loxophleba	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8

	Xanthorrhoea drummondii	Proximity to roosting (-1)	7
	Lepidosperma tenue	Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
AhAc2/AhKp2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
	Xanthorrhoea drummondii	Proximity to breeding (-2)	8
	Kunzea praestans	Proximity to roosting (-1)	7
	Hakea lissocarpha	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Lepidosperma tenue	Appraisal and adjusted score	**Score: 7**
AhAc3	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Neurachne alopecuroidea	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhAc4	*Allocasuarina huegeliana*	Starting score	10
	Santalum acuminatum	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Bossiaea sp. Cairn Hill (M Henson CH2-28)	Impact from significant plant disease (-1)	5
		Total score	5

		Appraisal and adjusted score	**Score: 3**
AhAc5	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Ricinocarpos muricatus	Proximity to breeding (-2)	6
	Hibbertia subvaginata	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhDf1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
	Stylobasium australe	Proximity to breeding (-2)	8
	Dryandra fraseri	Proximity to roosting (-1)	7
	Calytrix depressa	Impact from significant plant disease (-1)	7
	Lepidosperma leptostachyum	Total score	7
	Podolepis canescens	Appraisal and adjusted score	**Score: 8**
AhDp1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Dodonaea pinifolia	Connectivity (-2)	7
	Xanthosia fruticulosa	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
A	*Allocasuarina huegeliana*	Starting score	10

	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Eucalyptus eudesmioides	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Xanthorrhoea drummondii	Proximity to roosting (-1)	5
	Melaleuca radula	Impact from significant plant disease (-1)	5
	Dodonaea pinifolia	Total score	5
		Appraisal and adjusted score	**Score: 3**
AhDs1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Xanthorrhoea drummondii	Proximity to breeding (-2)	8
	Allocasuarina campestris	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
AhDs2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Xanthorrhoea drummondii	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
AhDsK	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10

	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Allocasuarina campestris	Proximity to roosting (-1)	7
	Hibbertia subvaginata	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
		Appraisal and adjusted score	**Score: 8**
AhDsKp2	*Allocasuarina huegeliana*	Starting score	10
	Dryandra sessilis var. sessilis	Foraging potential (-2)	10
	Kunzea praestans	Connectivity (-2)	9
	Hibbertia subvaginata	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
AhDsKp4	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
AhDsKp4/KpA	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9

	Kunzea praestans	Proximity to breeding (-2)	8
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to roosting (-1)	7
	Allocasuarina campestris	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Hibbertia subvaginata	Appraisal and adjusted score	**Score: 8**
	Xanthorrhoea drummondii		
	Melaleuca calyptroides		
AhHs1	*Allocasuarina huegeliana*	Starting score	10
	Xanthorrhoea drummondii	Foraging potential (-2)	8
	Hibbertia subvaginata	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhHs2		Starting score	10
		Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhKp1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5

		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhKp1/AhAc3/Ac4	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Allocasuarina campestris	Impact from significant plant disease (-1)	5
	Neurachne alopecuroidea	Total score	5
	Cheilanthes adiantoides	Appraisal and adjusted score	**Score: 3**
AhKp2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Xanthorrhoea drummondii	Proximity to breeding (-2)	6
	Hibbertia subvaginata	Proximity to roosting (-1)	5
	Calytrix leschenaultii	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhKp3	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Xanthorrhoea drummondii	Proximity to roosting (-1)	5
	Hibbertia subvaginata	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**

AhKp3/(KpAh1)	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Xanthorrhoea drummondii	Proximity to roosting (-1)	5
	Hibbertia subvaginata	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhRm1	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Stypandra glauca	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhRm2	*Allocasuarina huegeliana*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Regelia megacephala	Proximity to breeding (-2)	6
	Acacia acuminata subsp. acuminata	Proximity to roosting (-1)	5
	Melaleuca calyptroides	Impact from significant plant disease (-1)	5
	Xanthosia fruticulosa	Total score	5
	Desmocladus flexuosus	Appraisal and adjusted score	**Score: 3**
AhRmAc1	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Ricinocarpos muricatus	Proximity to breeding (-2)	6

	Hibbertia subvaginata	Proximity to roosting (-1)	5
	Lepidosperma tenue	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhTl1	*Allocasuarina huegeliana*	Starting score	10
	Trymalium ledifolium var. rosmarinifolium	Foraging potential (-2)	8
	Xanthosia fruticulosa	Connectivity (-2)	7
	Neurachne alopecuroidea	Proximity to breeding (-2)	6
	Desmocladus flexuosa	Proximity to roosting (-1)	5
	Dioscorea hastifolia	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhTl2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Trymalium ledifolium var. rosmarinifolium	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Cheilanthes adiantoides	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhXd1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Calytrix leschenaultii	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5

		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhXd2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Trymalium ledifolium var. rosmarinifolium	Proximity to roosting (-1)	5
	Olearia dampieri subsp. eremicola	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
AhXd5	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Neurachne alopecuroidea	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
B1	*Allocasuarina huegeliana*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Baeckea sp. Moora (R.Bone 1993/1)	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Schoenus clandestinus	Impact from significant plant disease (-1)	5
	Neurachne alopecuroidea	Total score	5
	Borya sphaerocephala	Appraisal and adjusted score	**Score: 3**

Cl1	*Allocasuarina campestris*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Calytrix leschenaultii	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Bromus diandrus	Proximity to roosting (-1)	5
	Briza maxima	Impact from significant plant disease (-1)	5
	Desmocladus flexuosus	Total score	5
	Neurachne alopecuroidea	Appraisal and adjusted score	**Score:0**
ClAh2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Xanthorrhoea drummondii	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Co1	*Casuarina obesa*	Starting score	10
		Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
D		Starting score	10
		Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8

		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 6**
DsHs1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Hibbertia subvaginata	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
EeDs1	*Eucalyptus eudesmioides*	Starting score	10
	Dryandra sessilis var. sessilis	Foraging potential (-2)	10
	Hibbertia subvaginata	Connectivity (-2)	9
	Calytrix leschenaultii	Proximity to breeding (-2)	8
	Desmocladus flexuosus	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
EeId1	*Eucalyptus eudesmioides*	Starting score	10
	Xanthorrhoea drummondii	Foraging potential (-2)	8
	Isopogon divergens	Connectivity (-2)	7
	Astroloma serratifolium	Proximity to breeding (-2)	6
	Lepidobolus chaetocephalus	Proximity to roosting (-1)	5
	Lepidosperma tenue	Impact from significant plant disease (-1)	5
	Stypandra glauca	Total score	5

	Stylidium septentrionale	Appraisal and adjusted score	**Score: 3**
EeKp1	*Allocasuarina huegeliana*	Starting score	10
	Eucalyptus eudesmioides	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Kunzea praestans	Proximity to breeding (-2)	6
	Melaleuca calyptroides	Proximity to roosting (-1)	5
	Baeckea sp. Moora (R.Bone 1993/1)	Impact from significant plant disease (-1)	5
	Calytrix leschenaultii	Total score	5
	Lepidosperma leptostachyum	Appraisal and adjusted score	**Score: 3**
EeKp2	*Allocasuarina huegeliana*	Starting score	10
	Eucalyptus eudesmioides	Foraging potential (-2)	10
	Dryandra sessilis subsp. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Xanthorrhoea drummondii	Proximity to roosting (-1)	7
	Hibbertia subvaginata	Impact from significant plant disease (-1)	7
	Bossiaea sp. Cairn Hill (M Henson CH2-28)	Total score	7
		Appraisal and adjusted score	**Score: 8**
EeKp3	*Allocasuarina huegeliana*	Starting score	10
	Eucalyptus eudesmioides	Foraging potential (-2)	8
	Acacia acuminata subsp. acuminata	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Kunzea praestans	Proximity to roosting (-1)	5
	Melaleuca radula	Impact from significant plant disease (-1)	5
	Dodonaea pinifolia	Total score	5
		Appraisal and adjusted score	**Score: 3**
E .	*Eucalyptus horistes*	Starting score	10

	Allocasuarina huegeliana	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
EhEe2	*Eucalyptus horistes*	Starting score	10
	Eucalyptus eudesmioides subsp. eudesmioides	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Regelia megacephala	Proximity to breeding (-2)	6
	Melaleuca calyptroides	Proximity to roosting (-1)	5
	Hibbertia subvaginata	Impact from significant plant disease (-1)	5
	Schoenus brevisetis	Total score	5
	Lepidosperma leptostachyum	Appraisal and adjusted score	**Score: 3**
EI1	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	10
	Acacia acuminata subsp. acuminata	Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EI2	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10

	Schoenus clandestinus	Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EI4	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
		Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EI5	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Allocasuarina huegeliana	Connectivity (-2)	9
	Trymalium ledifolium subsp. rosmarinifolium	Proximity to breeding (-2)	8
	Schoenus clandestinus	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EI6	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Allocasuarina huegeliana	Connectivity (-2)	9

	Trymalium ledifolium subsp. rosmarinifolium	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EIEo1/AcDs3	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Eucalyptus obtusiflora	Foraging potential (-2)	10
	Acacia acuminata subsp. acuminata	Connectivity (-2)	9
	Allocasuarina huegeliana	Proximity to breeding (-2)	8
	Melaleuca radula	Proximity to roosting (-1)	7
	Acacia microbotrya	Impact from significant plant disease (-1)	7
	Dodonaea pinifolia	Total score	7
		Appraisal and adjusted score	**Score: 7**
Elo1	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Trymalium daphnifolium	Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Elo2	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Dodonaea pinifolia	Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7

		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Elo3	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Melaleuca concreta	Foraging potential (-2)	10
	Neurachne alopecuroidea	Connectivity (-2)	9
	Austrostipa elegantissima	Proximity to breeding (-2)	8
	Rhodanthe polycephala	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Elo4	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Santalum acuminatum	Foraging potential (-2)	10
	Acacia microbotrya	Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Eo1	*Eucalyptus obtusiflora*	Starting score	10
	Eucalyptus loxophleba subsp. loxophleba	Foraging potential (-2)	10
	Acacia erinacea	Connectivity (-2)	9
	Ptilotus divaricatus var. divaricatus	Proximity to breeding (-2)	8
	Rhodanthe polycephala	Proximity to roosting (-1)	7
	Calandrinia sp.	Impact from significant plant disease (-1)	7
		Total score	7

		Appraisal and adjusted score	**Score: 7**
EOTd1	*Eucalyptus obtusiflora*	Starting score	10
	Trymalium daphnifolium	Foraging potential (-2)	8
	Acacia erinacea	Connectivity (-2)	7
	Austrodanthonia setacea	Proximity to breeding (-2)	6
	Austrostipa elegantissima	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Es1	*Eucalyptus salmonophloia*	Starting score	10
		Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EsEl	*Eucalyptus salmonophloia*	Starting score	10
	Eucalyptus loxophleba subsp. loxophleba	Foraging potential (-2)	10
	Acacia erinacea	Connectivity (-2)	9
	Ptilotus divaricatus var. divaricatus	Proximity to breeding (-2)	8
	Rhodanthe polycephala	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EsEl1	*Eucalyptus salmonophloia*	Starting score	10
	Eucalyptus loxophleba subsp. loxophleba	Foraging potential (-2)	10

	Rhagodia preissii ssp. preissii	Connectivity (-2)	9
	Ptilotus divaricatus var. divaricatus	Proximity to breeding (-2)	8
	Rhodanthe polycephala	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ew1	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
		Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ew1/Ew2	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ew2	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	10
		Connectivity (-2)	9

		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ew3	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
		Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Ew4	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Olearia dampieri subsp. eremicola	Foraging potential (-2)	10
	Hibbertia subvaginata	Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EwDi1	*Eucalyptus wandoo subsp. wandoo*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	10
	Dodonaea inaequifolia	Connectivity (-2)	9
	Trymalium ledifolium var. rosmarinifolium	Proximity to breeding (-2)	8

	Xanthosia fruticulosa	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
EwTl2	*Eucalyptus wandoo ssp. wandoo*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	10
	Allocasuarina campestris	Connectivity (-2)	9
	Trymalium ledifolium var. rosmarinifolium	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
Hs1	*Hibbertia subvaginata*	Starting score	10
	Calytrix leschenaultii	Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 2**
HsAh1	*Allocasuarina huegeliana*	Starting score	10
	Hibbertia subvaginata	Foraging potential (-2)	8
	Pityrodia dilatata	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**

HsAh2	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Eucalyptus loxophleba subsp. loxophleba	Connectivity (-2)	9
	Allocasuarina campestris	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
KpAh1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Xanthorrhoea drummondii	Proximity to breeding (-2)	6
	Hibbertia subvaginata	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
KpAhB1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Melaleuca calyptroides	Proximity to roosting (-1)	5
	Baeckea sp. Moora (R. Bone 1993/1)	Impact from significant plant disease (-1)	5
	Hibbertia subvaginata	Total score	5
		Appraisal and adjusted score	**Score: 3**
K	*Allocasuarina huegeliana*	Starting score	10

	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Allocasuarina campestris	Proximity to roosting (-1)	7
	Baeckea sp. Moora (R. Bone 1993/1)	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Hibbertia subvaginata	Appraisal and adjusted score	**Score: 8**
KpAhB3	*Allocasuarina humilis*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
KpAhDs1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Xanthorrhoea drummondii	Proximity to roosting (-1)	7
	Hibbertia subvaginata	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Desmocladus flexuosus	Appraisal and adjusted score	**Score: 8**
KpAhD	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10

	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Xanthorrhoea drummondii	Proximity to roosting (-1)	7
	Hibbertia subvaginata	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Desmocladus flexuosus	Appraisal and adjusted score	**Score: 8**
	Allocasuarina campestris		
	Baeckea sp. Moora (R. Bone 1993/1)		
KpAhDs1/Mc/B	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Xanthorrhoea drummondii	Proximity to roosting (-1)	7
	Hibbertia subvaginata	Impact from significant plant disease (-1)	7
	Calytrix leschenaultii	Total score	7
	Desmocladus flexuosus	Appraisal and adjusted score	**Score: 8**
	Allocasuarina campestris		
	Baeckea sp. Moora (R. Bone 1993/1)		
	Melaleuca calyptroides		
	Allocasuarina campestris		
KpAhDs2	*Allocasuarina huegeliana*	Starting score	10
	Dryandra sessilis var. sessilis	Foraging potential (-2)	10
	Kunzea praestans	Connectivity (-2)	9
	Xanthorrhoea drummondii	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7

		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 8**
KpAhMc1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Melaleuca calyptroides	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
KpDs1	*Nuytsia floribunda*	Starting score	10
	Dryandra sessilis var. sessilis	Foraging potential (-2)	10
	Kunzea praestans	Connectivity (-2)	9
	Xanthorrhoea drummondii	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
	Desmocladus flexuosus	Total score	7
	Neurachne alopecuroidea	Appraisal and adjusted score	**Score: 8**
KpDsMc1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Dryandra sessilis var. sessilis	Connectivity (-2)	9
	Kunzea praestans	Proximity to breeding (-2)	8
	Allocasuarina campestris	Proximity to roosting (-1)	7
	Xanthorrhoea drummondii	Impact from significant plant disease (-1)	7
	Melaleuca calyptroides	Total score	7

	Hibbertia subvaginata	Appraisal and adjusted score	**Score: 8**
KpDsMc2	*Dryandra sessilis var. sessilis*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	10
	Xanthorrhoea drummondii	Connectivity (-2)	9
	Melaleuca calyptroides	Proximity to breeding (-2)	8
	Hibbertia subvaginata	Proximity to roosting (-1)	7
	Calytrix leschenaultii	Impact from significant plant disease (-1)	7
	Desmocladus flexuosus,	Total score	7
	Stylidium septentrionale	Appraisal and adjusted score	**Score: 8**
KpEe1	*Eucalyptus eudesmioides*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Xanthorrhoea drummondii	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Baeckea sp. Moora (R.Bone 1993/1)	Proximity to roosting (-1)	5
	Hibbertia subvaginata	Impact from significant plant disease (-1)	5
	Neurachne alopecuroidea	Total score	5
	Desmocladus flexuosus	Appraisal and adjusted score	**Score: 3**
KpHs1	*Kunzea praestans*	Starting score	10
	Hibbertia subvaginata	Foraging potential (-2)	8
	Desmocladus flexuosus	Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
KpHs2	*Kunzea praestans*	Starting score	10
	Allocasuarina campestris	Foraging potential (-2)	8
	Hibbertia subvaginata	Connectivity (-2)	7

		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
M2		Starting score	10
		Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Mc1	*Kunzea praestans*	Starting score	10
	Melaleuca calyptroides	Foraging potential (-2)	8
	Hibbertia subvaginata	Connectivity (-2)	7
	Calytrix leschenaultii	Proximity to breeding (-2)	6
	Desmocladus flexuosus	Proximity to roosting (-1)	5
	Stylidium septentrionale	Impact from significant plant disease (-1)	5
	Borya sphaerocephala	Total score	5
		Appraisal and adjusted score	**Score: 3**
Mc3	*Dryandra sessilis var. sessilis*	Starting score	10
	Baeckea sp. Moora (R. Bone 1993/1)	Foraging potential (-2)	10
	Melaleuca calyptroides	Connectivity (-2)	9
		Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7

		Appraisal and adjusted score	**Score: 8**
Mco1	*Eucalyptus loxophleba subsp. loxophleba*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	10
	Melaleuca concreta	Connectivity (-2)	9
	Baeckea sp. Moora (R.Bone 1993/1)	Proximity to breeding (-2)	8
		Proximity to roosting (-1)	7
		Impact from significant plant disease (-1)	7
		Total score	7
		Appraisal and adjusted score	**Score: 7**
RmAh1	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Xanthosia fruticulosa	Proximity to roosting (-1)	5
	Stypandra glauca	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmAh1/KpHs1/AhKp2	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
	Xanthosia fruticulosa	Proximity to roosting (-1)	5
	Stypandra glauca	Impact from significant plant disease (-1)	5
	Acacia acuminata subsp. acuminata	Total score	5
	Xanthorrhoea drummondii	Appraisal and adjusted score	**Score: 3**

RmAh4	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmB1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Regelia megacephala	Connectivity (-2)	7
	Xanthorrhoea drummondii	Proximity to breeding (-2)	6
	Kunzea praestans	Proximity to roosting (-1)	5
	Baeckea sp. Moora (R. Bone 1993/1)	Impact from significant plant disease (-1)	5
	Calytrix leschenaultii	Total score	5
	Hibbertia subvaginata	Appraisal and adjusted score	**Score: 3**
RmEe1	*Eucalyptus eudesmioides*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Baeckea sp. Moora (R. Bone 1993/1)	Proximity to roosting (-1)	5
	Hibbertia subvaginata	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmH	*Regelia megacephala*	Starting score	10
	Hibbertia subvaginata	Foraging potential (-2)	8

		Connectivity (-2)	7
		Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmHs3	*Acacia acuminata subsp. acuminata*	Starting score	10
	Allocasuarina huegeliana	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKp1	*Regelia megacephala*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Hibbertia subvaginata	Connectivity (-2)	7
	Xanthosia fruticulosa	Proximity to breeding (-2)	6
	Stypandra glauca	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKp2	*Regelia megacephala*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Hibbertia subvaginata	Connectivity (-2)	7
	Xanthosia fruticulosa	Proximity to breeding (-2)	6
	Stypandra glauca	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5

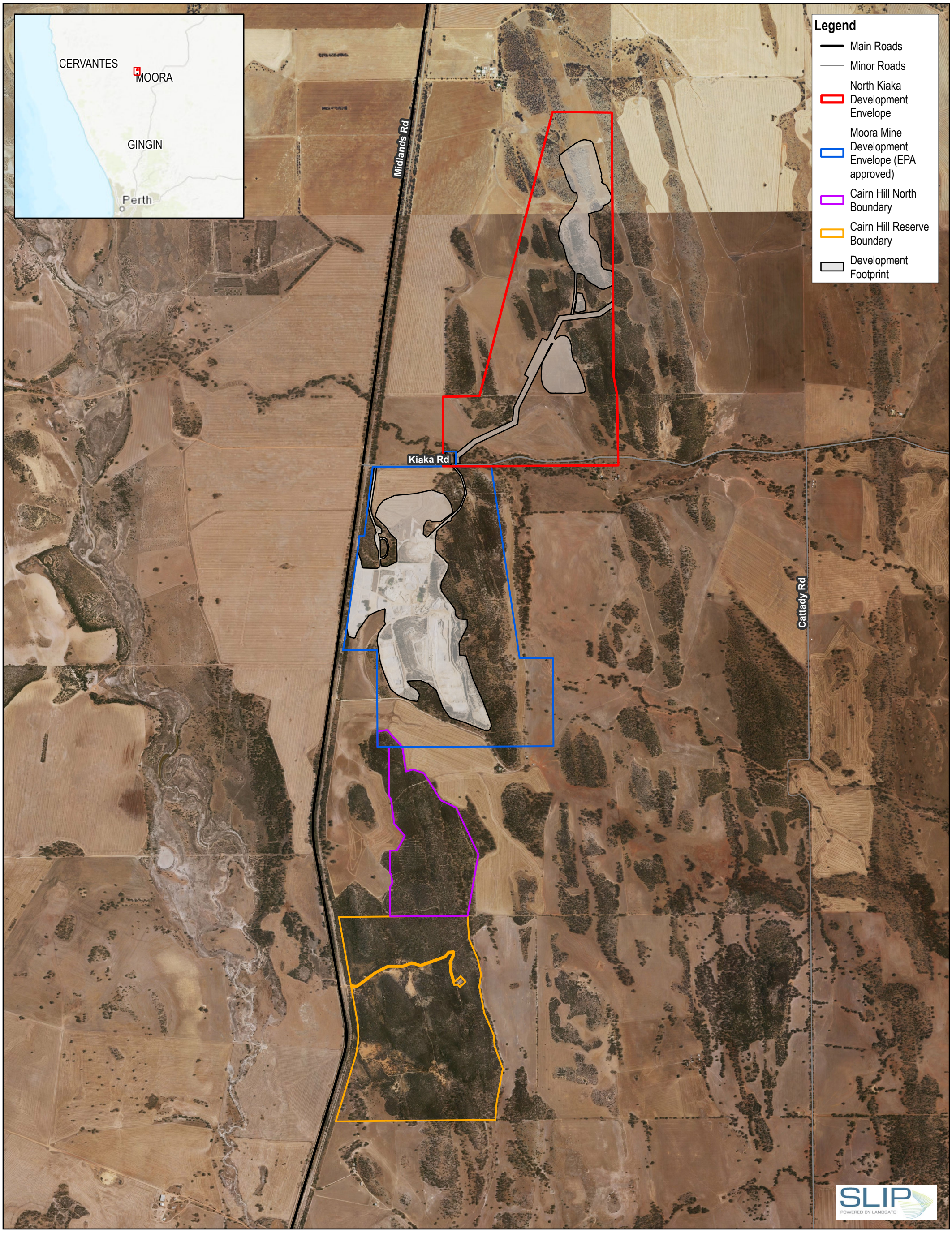
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKp3	*Regelia megacephala*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Hibbertia subvaginata	Connectivity (-2)	7
	Calytrix leschenaultii	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKpMc	*Regelia megacephala*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Melaleuca calyptroides	Connectivity (-2)	7
	Hibbertia subvaginata	Proximity to breeding (-2)	6
		Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKpMc1	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Hibbertia subvaginata	Proximity to roosting (-1)	5
	Stypandra glauca	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKpMc	*Allocasuarina huegeliana*	Starting score	10
	Regelia megacephala	Foraging potential (-2)	8
	Kunzea praestans	Connectivity (-2)	7

	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Calytrix leschenaultii	Proximity to roosting (-1)	5
	Borya sphaerocephala	Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKpMc3	*Regelia megacephala*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Hibbertia subvaginata	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
RmKpMc3/KpAh4	*Regelia megacephala*	Starting score	10
	Kunzea praestans	Foraging potential (-2)	8
	Allocasuarina campestris	Connectivity (-2)	7
	Melaleuca calyptroides	Proximity to breeding (-2)	6
	Hibbertia subvaginata	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5
		Appraisal and adjusted score	**Score: 3**
Rmu1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Ricinocarpus muricatus	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Desmocladus flexuosus	Proximity to roosting (-1)	5
		Impact from significant plant disease (-1)	5
		Total score	5

		Appraisal and adjusted score	**Score: 3**
Rmu1/AcAh1	*Allocasuarina huegeliana*	Starting score	10
	Acacia acuminata subsp. acuminata	Foraging potential (-2)	8
	Ricinocarpus muricatus	Connectivity (-2)	7
	Allocasuarina campestris	Proximity to breeding (-2)	6
	Desmocladus flexuosus	Proximity to roosting (-1)	5
	Borya sphaerocephala	Impact from significant plant disease (-1)	5
	Cheilanthes adiantoides	Total score	5
	Dichopogon capillipes	Appraisal and adjusted score	**Score: 3**

Appendix F

2024 Black Cockatoo Foraging Assessment Figures



Paper Size ISO A3

0 175 350 525 700

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Simcoa Operations Pty Ltd
North Kiaka Project Approval
Support - Sites Assets

Project No. **12627587**
Revision No. **0**
Date **11/06/2024**

Locality

FIGURE 6

\\ghdnet\ghd\AU\Perth\Projects\61\12627587\GIS\Maps\Working\12627587_NorthKiakaFauna\12627587_NorthKiakaFauna\12627587_NorthKiakaFauna.aprx
Print date: 11 Jun 2024 - 16:19

Data source: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS
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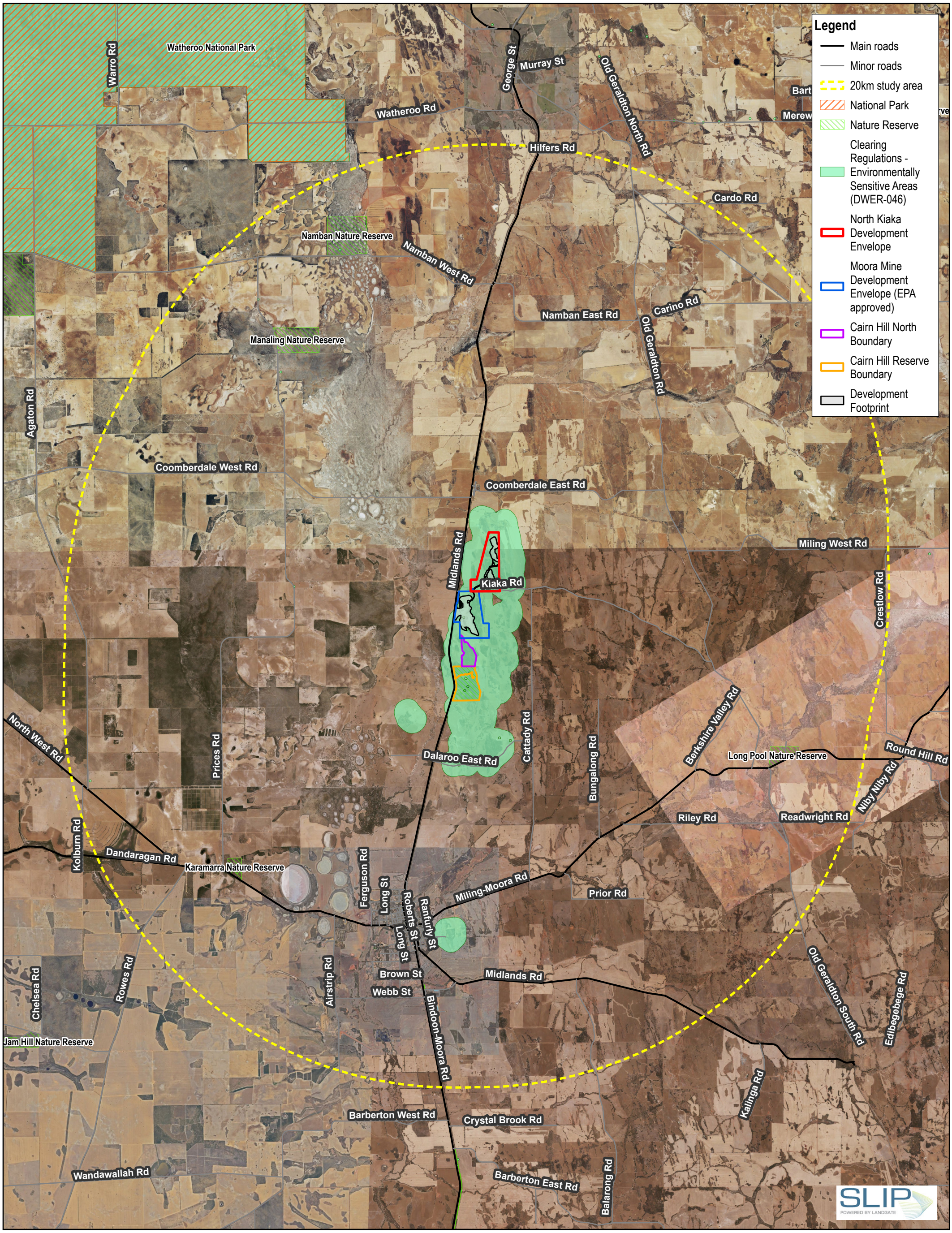

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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Simcoa Operations Pty Ltd
North Kiaka Project Approval Support - Sites Assets

Biological Constraints

Project No. **12627587**
Revision No. **0**
Date **11/06/2024**

FIGURE 7

\\ghdnet\ghd\AU\Perth\Projects\61\12627587\GIS\Maps\Working\12627587_NorthKiakaFauna\12627587_NorthKiakaFauna\12627587_NorthKiakaFauna.aprx
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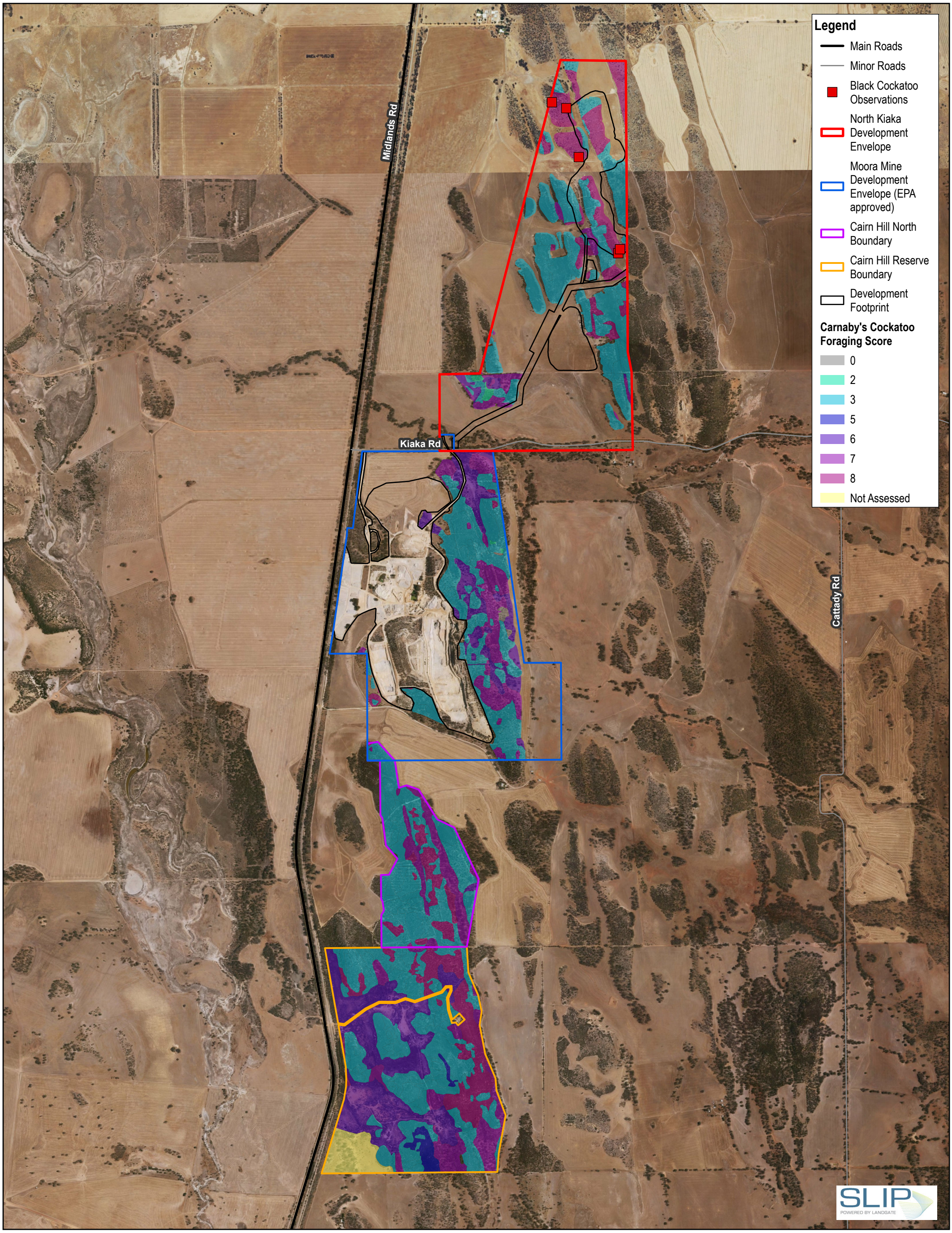

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

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Support - Sites Assets

Project No. **12627587**
Revision No. **0**
Date **11/06/2024**

Black Cockatoo Foraging Assessment

FIGURE 8

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Data source: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS
WMS: . Created by: rbrown3


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