Black Cockatoo Habitat Assessment

Proposed Clearing Area
(CPS 9395/1)

Lot 1002
Warner Glen Road
Forest Grove

January 2024
V1

On behalf of:
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SUMMARY

This report details the results of a black cockatoo habitat assessment carried out over a section of Lot 1002 Warner Glen Road, Forest Grove (Figure 1).

The landowners (Bradley Noakes and Steven Noakes) have applied for a permit to clear vegetation from within the Lot (CPS 9395/1) to create room for a centre pivot and a dam. Upon review the Department of Water and Environmental Regulation (DWER) have advised the Landowners that in order to determine the impacts to conservation significant fauna a black cockatoo habitat tree and foraging habitat assessment is required of the proposed 3.7 hectare clearing area as depicted on the attached figure (the survey area) (Figure 2).

The fauna assessment detailed in this report seeks to satisfy this requirement.

Daytime site reconnaissance surveys and habitat assessments were carried out on the 11 October 2023, the 10 November 2023 and the 6 January 2024. All field work was carried out by Greg Harewood (Zoologist).

Key Findings

The survey area has a total extent of about 3.7 ha and consist of two main habitat types.

The western most section of the survey area falls over a narrow, seasonal drainage line and contains a dense tall shrubland of various species over bracken and sedges. The natural vegetation is infested with blackberry (*Rubus ulmifolius*) making the entire area impenetrable. This section of the survey area contains no trees.

The eastern most section of the survey area contains a woodland dominated by marri (*Corymbia calophylla)* (with occasional jarrah (*Eucalyptus marginata*) and karri (*E. diversicolor*) over grassland. The southern section of this area has been fenced from livestock and contains a shrubland/low shrubland.

The habitat tree assessment identified 99 trees within the survey area with a DBH of ≥50cm. Most (90) appeared to not contain hollows of any size. Nine (9) trees contained apparent or obvious hollows, all of which were assessed as being unlikely to be suitable for black cockatoos to currently use for nesting purposes, due to the hollows apparent small size, unsuitable orientation and/or height above ground level.

No trees appeared to contain hollows suitable for black cockatoos to use for nesting purposes.

Evidence of black cockatoos foraging with the survey area was observed at a small number of locations. The evidence was all in the form of chewed fruits from marri. The foraging activity has been attributed to Carnaby's cockatoos based on the nature of the evidence.

Given the dominance of marri the entire eastern section of the survey area (~1.7 ha) can be regarded as quality foraging habitat.

No roost sites were identified within the survey area with the closest documented roost site being located about 6.7 kilometres north west of the survey area.

Based on available mapping there is about 25,500 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2023). Much of this is likely to contain black cockatoo habitat of some type.

1. INTRODUCTION

This report details the results of a black cockatoo habitat assessment carried out over a section of Lot 1002 Warner Glen Road, Forest Grove (Figure 1).

The landowners (Bradley Noakes and Steven Noakes) have applied for a permit to clear vegetation from within the Lot (CPS 9395/1) to create room for a centre pivot and a dam. Upon review the Department of Water and Environmental Regulation (DWER) have advised the Landowners that in order to determine the impacts to conservation significant fauna a black cockatoo habitat tree and foraging habitat assessment is required of the proposed 3.7 hectare clearing area as depicted on the attached figure (the survey area) (Figure 2).

The fauna assessment detailed in this report seeks to satisfy this requirement.

2. SCOPE OF WORKS

The request for additional information from DWER (2021) states:

- A black cockatoo habitat tree assessment is required for the area proposed to be cleared.

The assessment/survey is to be carried out by a fauna specialist, and the survey is required to identify all trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater that contain a hollow or hollows that may be suitable for breeding by Carnaby's cockatoo, Baudin's cockatoo, and forest red-tailed black cockatoo. The survey must document:

- the date(s) of the survey;
- the GPS locations (i.e. eastings and northings or decimal degrees) of all trees identified as containing hollows which may be suitable for black cockatoos;
- the methodology for determining the evidence of use of each hollow; and
- a description/photo of the evidence of use.

Any evidence of foraging by Carnaby's cockatoo, Baudin's cockatoo, and/or forest red-tailed black cockatoo observed during the survey should also be documented.

Note: For the purposes of this proposal the term black cockatoo is in reference to Baudin's cockatoo *Zanda baudinii*, Carnaby's cockatoo *Zanda latirostris* and the forest red-tailed black cockatoo *Calyptorhynchus banksii naso*.

3. METHODS

Daytime site reconnaissance surveys and habitat assessments were carried out on the 11 October 2023, the 10 November 2023 and the 6 January 2024. All field work was carried out by Greg Harewood (Zoologist) using methods described in the sections below.

3.1 HABITAT ASSESSMENT

Vegetation units, landforms and soils observed during the site reconnaissance survey have been used to define broad fauna habitat types across the survey area.

3.2 BLACK COCKATOO HABITAT ASSESSMENT

The following methods were employed to comply with the defined scope of works and are based on Commonwealth of Australia (2012 and 2022) guidelines which state that surveys for Carnaby's, Baudin's and forest red-tailed black cockatoo habitat should:

- be done by a suitably qualified person with experience in vegetation or cockatoo surveys, depending on the type of survey being undertaken;
- maximise the chance of detecting the species' habitat and/or signs of use;
- determine the context of the site within the broader landscape—for example, the amount and quality of habitat nearby and in the local region (for example, within 12 km);
- account for uncertainty and error (false presence and absences); and
- include collation of existing data on known locations of breeding and feeding birds and night roost locations.

The Commonwealth of Australia (2012) places habitats used by black cockatoos into the following three categories:

- Breeding Habitat;
- Foraging Habitat; and
- Night Roosting Habitat.

3.2.1 Breeding Habitat Assessment

The black cockatoo breeding habitat assessment identified all suitable breeding tree species within the survey area that have a diameter at breast height (DBH) equal to or greater than 50cm. The DBH of each tree was estimated using a pre-made "caliper".

Target tree species included marri, jarrah, karri and flooded gum and any other *Corymbia/Eucalyptus* species of a suitable size that was present. Peppermints, *Banksia*, sheoak and *Melaleuca* tree species (for example) were not assessed as they typically do not develop hollows used by black cockatoos.

The location of each tree identified over the threshold DBH was recorded with a GPS and the following additional details recorded: approximate tree height, number, approximate entrance size of any hollow/possible hollow, evidence of hollow use and likelihood of representing an actual black cockatoo nest hollow. Trees observed to contain hollows (of any size/type) were marked with "H" using spray paint.

Hollow/potential hollows were placed into one of four categories, based on the size of the apparent hollow entrance, these being:

- Small = ~<5cm diameter (i.e. entrance too small for a black cockatoo);
- Medium = ~5cm-10cm diameter (i.e. entrance too small for a black cockatoo);
- Large = ~>10cm diameter (entrance large enough for a black cockatoo but hollow appears unsuitable for nesting i.e. wrong orientation, appears too small, too low or too shallow); or
- Large (cockatoo) = ~>10cm diameter (entrance appears big enough for a black cockatoo to use for nesting).

Based on this assessment, trees present within the survey area were placed into one of four categories:

- Tree <50cm DBH or an unsuitable species (these were not assessed/recorded);
- Tree ≥50cm DBH, no hollows seen;
- Tree ≥50cm DBH, one or more hollows seen, none of which were considered suitable for black cockatoos to use for nesting; or
- Tree ≥50cm DBH, one or more hollows seen, with at least one considered suitable for black cockatoos to use for nesting.

For the purposes of this assessment, a tree containing a potential black cockatoo nest hollow was defined as:

Generally, any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) or possible hollows suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 10cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, were recorded as a "potential nest hollow".

Identified hollows were examined using binoculars for evidence of actual use by black cockatoos (e.g. chewing/chipping around hollow entrance, scarring and scratch marks on trunks and branches).

Where the assessment was inconclusive, and if possible, trees identified as having potential black cockatoo nest hollows were subsequently examined and photographed using a drone (DJI Mavic Air/Mini).

Potential nest hollows were initially placed into one of three categories based on the type of hollow entry:

- Chimney: the hollow entry faces directly upwards in the end of the trunk;
- Spout: hollow entry which is at the end of a broken branch; or
- Side: the entry is directly into the side of the trunk or a branch with no protrusions.

After inspection with the drone suspected hollows have then been placed into one of five categories based on the observable characteristics of each hollow. The categories used were:

- Confirmed Hollow: Black cockatoos observed utilising the hollow for breeding purposes;
- Chewed Hollow: The hollow shows signs of chewing ("chipping" around or near entrance and/or internally) attributed to black cockatoo activity (in most cases indicating nesting activity, but in some cases possibly marks left by black cockatoos investigating ("prospecting") hollows);
- Unused Hollow: The hollow appears to be of a suitable size for black cockatoos to use for nesting, but no conclusive evidence of this activity seen. It should be noted that chew marks/chipping are not always evident or present on some hollows that have been used for nesting. Hollows classified as "unused" may therefore have been used for nesting but cannot be specifically classified as such. Alternatively, some "unused" hollows may not be suitable for black cockatoos as a range of characteristics, not all of which can be seen or measured, ultimately determined if a hollow will ever actually be used;
- Unsuitable Hollow: The hollow has been assessed, based on information obtained, as being unlikely to be suitable for black cockatoos (generally because of the entrance appearing to be too small or because the actual hollow or accommodating branch/tree trunk appears to be too small or as having an unfavourable orientation);
- No Hollow: A possible hollow was found upon closer inspection to not be present.

3.2.2 Foraging Habitat Assessment

Foraging habitat is represented by plant species that are known to provide a food source for black cockatoos. This can be in the form of seeds, flowers and also boring grubs that are extracted from some plant species.

The location and nature of black cockatoo foraging evidence (e.g. chewed fruits around base of trees) observed during the field survey was recorded. The nature and extent of potential foraging habitat present was also documented irrespective of the presence of any actual foraging evidence.

3.2.3 Night Roosting Habitat Assessment

Direct and indirect evidence of black cockatoos roosting within trees on site was noted where observed (e.g. branch clippings, droppings or moulted feathers).

4. SURVEY LIMITATIONS

No seasonal sampling was carried out as part of this fauna assessment. The conclusions presented are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of the field assessments. It should be recognised that site conditions can change with time.

Lack of observational data on some species should also not necessarily be taken as an indication that a species is absent from the site or does not utilise it for some purpose at times.

During the survey, habitat trees with hollows were searched for. It should be noted that identifying hollows suitable for fauna species from ground level has limitations. Generally, the full characteristics of any hollow seen are not fully evident (e.g. internal dimensions). It is also difficult to locate all hollows within all trees as some are not observable from ground level.

The location of observations was recorded using a handheld GPS. The accuracy of the GPS cannot be guaranteed above a level of about 5 to 10 metres, though it should be noted that in some circumstance the accuracy can increase or decrease beyond this range.

5. RESULTS

5.1 HABITAT ASSESSMENT

The survey area has a total extent of about 3.7 ha and consist of two main habitat types.

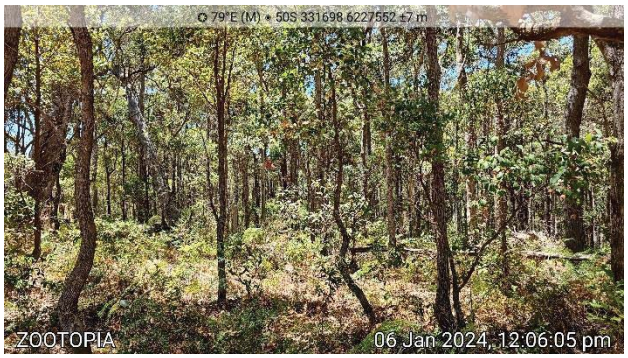
The western most section of the survey area falls over a narrow, seasonal drainage line and contains a dense tall shrubland of various species over bracken and sedges. The natural vegetation is infested with blackberry (*Rubus ulmifolius*) making the entire area impenetrable. This section of the survey area contains no trees.

The eastern most section of the survey area contains a woodland dominated by marri (*Corymbia calophylla)* (with occasional jarrah (*Eucalyptus marginata*) and karri (*E. diversicolor*) over grassland. The southern section of this area has been fenced from livestock and contains a shrubland/low shrubland.

Example images of the various fauna habitats present are provided in Table 1.

Table 1: Example images of the fauna habitats within the survey area

Fauna Habitat Description	Example Image
Seasonal drainage line containing a tall shrubland of various species over bracken and sedges. The natural vegetation is infested with blackberry (*Rubus ulmifolius*). Area = ~2.0 ha (~54%)	 
Woodland dominated by marri (*Corymbia calophylla*) (with occasional jarrah (*Eucalyptus marginata*) and karri (*E. diversicolor*) over grassland. The southern section of this area has been fenced from livestock and contains a shrubland/low shrubland. Area = ~1.7 ha (~46%)	

Fauna Habitat Description	Example Image
	

5.2 BLACK COCKATOO HABITAT ASSESSMENT

5.2.1 Breeding Habitat Assessment

Trees considered potentially suitable for black cockatoos to use as nesting habitat (subject to a suitable hollow being present and other factors) found within the survey area comprised the following species:

- Marri - *Corymbia calophylla;*
- Jarrah – *Eucalyptus marginata*; and
- Karri - *Eucalyptus diversicolor*.

A summary of the habitat trees observed is provided in Table 2. The locations of habitat trees are shown in Figure 3. Additional details on these trees are provided in Appendix A.

Table 2: Summary of potential habitat trees (DBH ≥50cm) within the survey area

Total Number of Habitat Trees (DBH > 50cm)	Number of Habitat Trees with No Hollows Observed	Number of Habitat Trees with Possible Hollows considered Unsuitable for Black Cockatoos	Number of Habitat Trees with Possible Hollows considered Potentially suitable for Black Cockatoos	Tree Species		
				Marri	Jarrah	Karri
99	90	9	0	89	9	1

The assessment identified 99 trees within the survey area with a DBH of ≥50cm. Most (90) appeared to not contain hollows of any size. Nine (9) trees contained apparent or obvious hollows, all of which were assessed as being unlikely to be suitable for black cockatoos to currently use for nesting purposes, due to the hollows apparent small size, unsuitable orientation and/or height above ground level.

No trees appeared to contain hollows suitable for black cockatoos to use for nesting purposes.

Based on available mapping, there is approximately 25,500 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2023). Much of this is likely to contain "potential" breeding habitat as defined by DWER (i.e. suitable tree species with a DBH ≥50cm).

5.3 Foraging Habitat Assessment

The following flora species are known to be or are potentially used as a direct food source (e.g. seeds, flowers, nectar, bark or grubs) by one or more species of black cockatoo and were recorded within the survey area:

- Marri - *Corymbia calophylla;*
- Jarrah – *Eucalyptus marginata*; and
- Karri - *Eucalyptus diversicolor*.

Evidence of black cockatoos foraging with the survey area was observed at a small number of locations. The evidence was all in the form of chewed fruits from marri. The foraging activity has been attributed to Carnaby's cockatoos based on the nature of the evidence. An example of the foraging debris observed is provided in the table below.

Table 3: Foraging evidence example

Foraging Evidence Description	Example Image
Marri fruit – foraging activity attributed to Carnaby's cockatoo.	

Given the dominance of marri the entire eastern section of the survey area (~1.7 ha) can be regarded as quality foraging habitat.

Based on available mapping there is about 25,500 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2023). Much of this is likely to contain black cockatoo foraging habitat of some type.

5.3.1 Night Roosting Habitat Assessment

No evidence of black cockatoos roosting within trees located within the survey area was observed during the survey period. It is difficult to determine if trees or groves of trees within the survey area represent potential roosting habitat as a range of factors, not all of which can be observed, determine suitability. Some of the larger trees may be suitable for roosting but as indicated no actual evidence of use was seen.

A review of the 2019 Great Cocky Count database shows no documented roost sites within the survey area. The 2019 Great Cocky Count recorded the closest active roost, approximately 6.7 kilometres north west of the survey area (Site ID: AUGWITR002). This roost was being used by 2 white-tailed black cockatoos during the April 2019 survey (Peck *et al.* 2019). Another five documented roost sites (but not necessarily in current use) are indicated by Peck *et al.* (2019) as occurring within 12 km of the survey area. DWER (2021) state that there are six documented roots sites within 12 km of the survey area though no specific details are provided as to their location or current status, though at least some are likely to be those documented by Peck *et al.* (2019).

6. CONCLUSION

The assessment reported on here was primarily undertaken to document black cockatoo habitat within the survey area so as to allow for the sites value in a regional context to be better understood.

Vegetation within the survey area was found in broad terms to consist of two broad habitat types. The western most section of the survey area falls over a narrow, seasonal drainage line and contains a dense tall shrubland of various species over bracken and sedges and is infested with the invasive blackberry. This 2.0 ha area is largely unsuitable habitat for black cockatoos.

The eastern most section of the survey area (~1.7 ha) contains a woodland dominated by marri (with occasional jarrah and karri) over grassland. The southern section of this area has been fenced from livestock and contains a shrubland/low shrubland.

No existing or potential black cockatoo nest hollows were recorded within the survey area with the habitat trees identified (99 in total) either having no apparent hollows or only unsuitably sized/orientated hollows.

Evidence of black cockatoos foraging with the survey area was observed at a small number of locations. The evidence was all in the form of chewed marri fruits. It has been estimated that the survey area contains about 1.7 ha of quality foraging habitat (based on canopy coverage) given the dominance of marri.

No roost sites were identified within the survey area with the closest documented roost site being located about 6.7 kilometres north west of the survey area.

Based on available mapping there is about 25,500 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2023). Much of this is likely to contain black cockatoo habitat of some type.

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7. REFERENCES

Commonwealth of Australia (2012). EPBC Act Referral guidelines for three threatened Black Cockatoo species: Carnaby's cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin's cockatoo (vulnerable) *Calyptorhynchus baudinii*, Forest Red-tailed Black Cockatoo (vulnerable) *Calyptorhynchus banksii naso.*

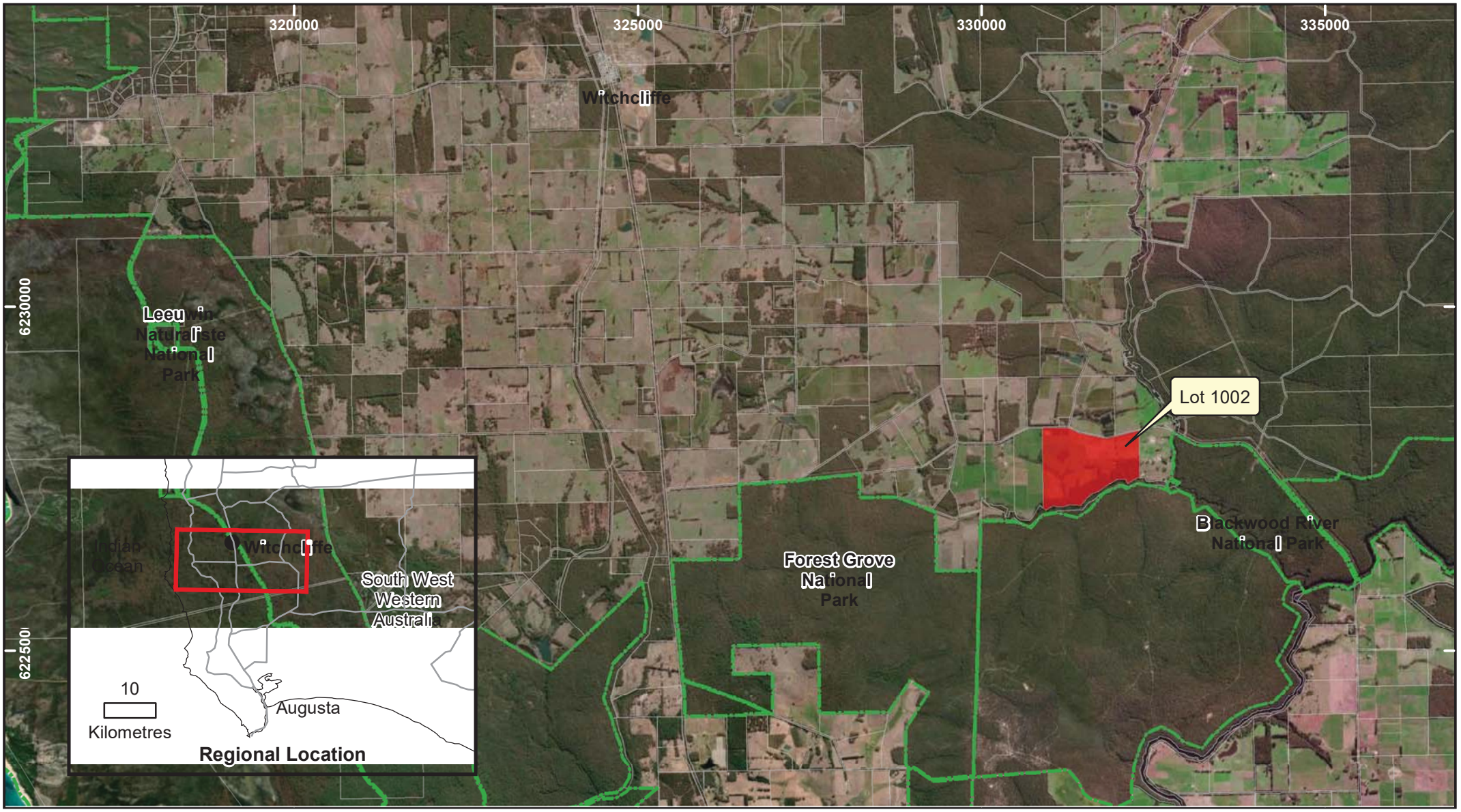
Commonwealth of Australia (2022). Referral guideline for 3 threatened WA threatened black cockatoo species: Carnaby's cockatoo (*Zanda latirostris*), Baudin's cockatoo (*Zanda baudinii*), Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*). Department of Agriculture, Water and the Environment, Canberra.

Department of Primary Industries and Regional Development (DPIRD) Geographic Information Services (2024). Native Vegetation Extent (DPIRD-005) (Western Australia) Shapefile - https://catalogue.data.wa.gov.au/dataset/native-vegetation-extent.

Department of Water and Environmental Regulation (DWER) (2021). Application to Clear Native Vegetation under the Environmental Protection Act 1986 – Request for Further Information - CPS 9395/1. 3 November 2021.

Peck, A., Barrett, G. & Williams, M. (2019). The 2019 Great Cocky Count: a community-based survey for Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*) and Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso*). BirdLife Australia, Floreat, Western Australia.

FIGURES



Legend

Lot Area

0 1 2 3 4 5

Kilometres

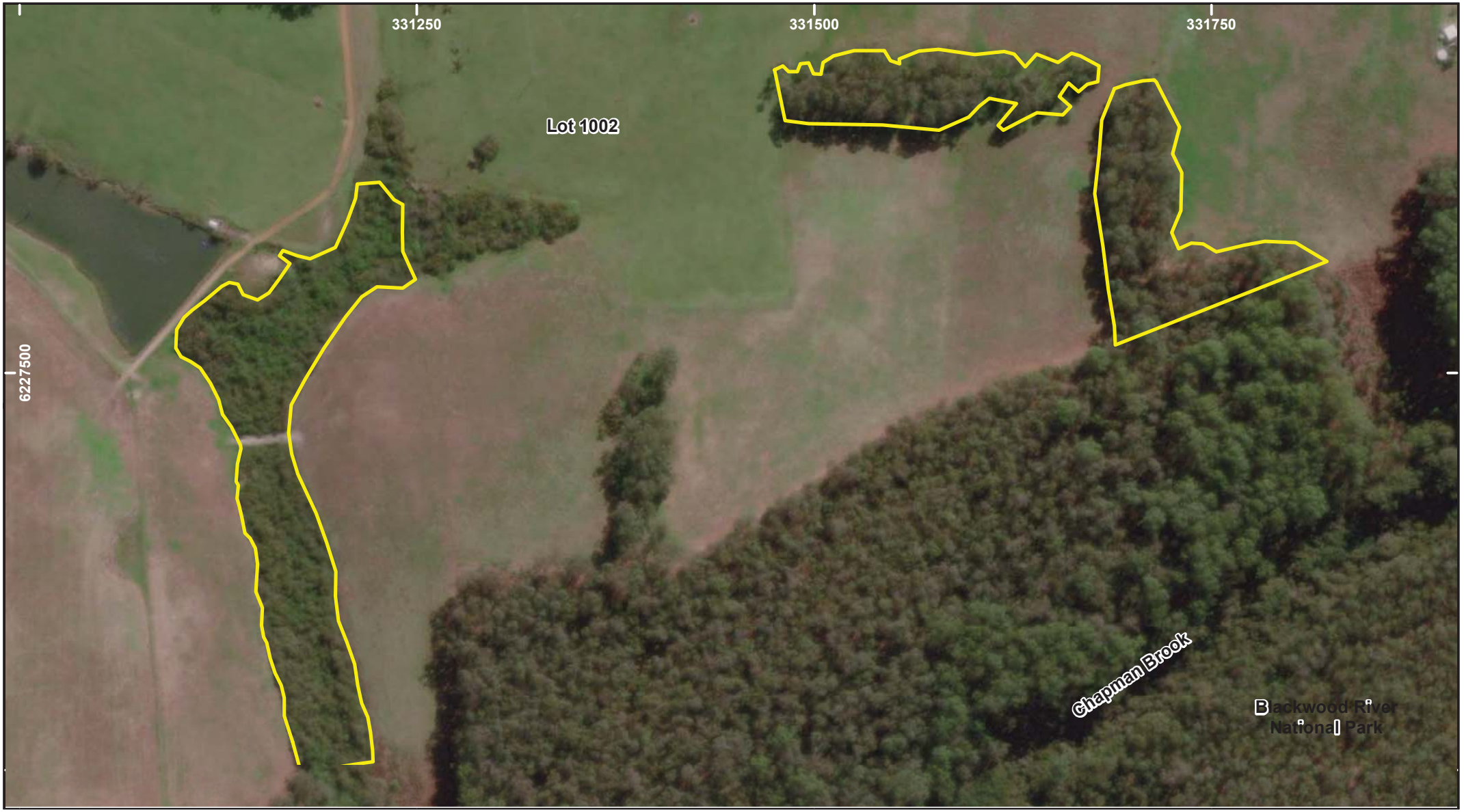
Fauna Survey

LOT 1002 WARNER GLEN ROAD
FOREST GROVE

Survey Area and Surrounds

Drawn: G Harewood
Date: 09-Jan-24
Scale: 1:75,000
Projection/Coordinate System: UTM/MGA Zone 50

Figure: 1



Legend

CPS 9395/1 Boundary

N

0 50 100 150 200 250

Meters

Fauna Survey

LOT 1002 WARNER GLEN ROAD
FOREST GROVE

Survey Area Aerial Photograph

Drawn: G Harewood
Date: 09-Jan-24
Scale: 1:3,250
Projection/Coordinate System: UTM/MGA Zone 50

Figure: 2

Legend

- CPS 9395/1 Boundary
- Habitat Tree - No hollows observed
- Habitat Tree - One or more hollows
  None suitable for black cockatoos

N

0 50 100 150 200 250

Meters

Fauna Survey

LOT 1002 WARNER GLEN ROAD
FOREST GROVE

Habitat Trees (DBH >50cm)

Drawn: G Harewood	
Date: 10-Jan-24	
Scale: 1:3,250	
Projection/Coordinate System: UTM/MGA Zone 50	Figure: 3

APPENDIX A
HABITAT TREE DETAILS

Habitat Trees (DBH >50cm)

Datum - GDA94

Entrance Size Ranges - Small = >5cm, Medium = 5 to 10cm, Large = >10cm

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow
wpt001	50H	331698	6227666	Jarrah	10-15	>50	0				
wpt002	50H	331703	6227671	Dead Marri	15-20	>50	2+	Small & Medium	No Signs	No Signs	No
wpt003	50H	331708	6227673	Marri	15-20	>50	0				
wpt004	50H	331707	6227668	Marri	20+	>50	2+	Small & Medium	No Signs	No Signs	No
wpt005	50H	331716	6227668	Marri	15-20	>50	0				
wpt006	50H	331712	6227656	Marri	15-20	>50	0				
wpt007	50H	331711	6227652	Dead Marri	10-15	>50	0				
wpt008	50H	331716	6227650	Marri	20+	>50	1	Medium	No Signs	No Signs	No
wpt009	50H	331712	6227648	Marri	20+	>50	0				
wpt010	50H	331719	6227627	Marri	20+	>50	0				
wpt011	50H	331715	6227621	Marri	20+	>50	0				
wpt012	50H	331709	6227622	Marri	15-20	>50	0				
wpt013	50H	331710	6227619	Marri	15-20	>50	0				
wpt014	50H	331705	6227611	Marri	15-20	>50	0				
wpt015	50H	331717	6227612	Marri	15-20	>50	0				
wpt016	50H	331719	6227610	Marri	15-20	>50	0				
wpt017	50H	331717	6227606	Marri	20+	>50	0				
wpt018	50H	331690	6227658	Marri	15-20	>50	0				
wpt019	50H	331692	6227651	Marri	15-20	>50	0				
wpt020	50H	331691	6227641	Jarrah	15-20	>50	0				
wpt021	50H	331699	6227636	Dead Marri	15-20	>50	0				
wpt022	50H	331702	6227630	Marri	15-20	>50	0				
wpt023	50H	331701	6227626	Dead Jarrah	15-20	>50	0				
wpt024	50H	331700	6227626	Dead Jarrah	5-10	>50	1	Medium	No Signs	No Signs	No
wpt025	50H	331696	6227626	Marri	15-20	>50	0				
wpt026	50H	331688	6227628	Marri	15-20	>50	0				

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow
wpt027	50H	331688	6227618	Marri	15-20	>50	0				
wpt028	50H	331694	6227613	Jarrah	15-20	>50	2+	Small & Medium	No Signs	No Signs	No
wpt029	50H	331695	6227609	Marri	15-20	>50	0				
wpt030	50H	331689	6227606	Marri	15-20	>50	0				
wpt031	50H	331694	6227601	Marri	15-20	>50	0				
wpt032	50H	331693	6227595	Marri	15-20	>50	0				
wpt033	50H	331691	6227591	Marri	15-20	>50	0				
wpt034	50H	331690	6227580	Marri	15-20	>50	0				
wpt035	50H	331687	6227581	Marri	15-20	>50	0				
wpt036	50H	331694	6227582	Marri	15-20	>50	0				
wpt037	50H	331698	6227571	Marri	15-20	>50	0				
wpt038	50H	331693	6227567	Jarrah	10-15	>50	0				
wpt039	50H	331698	6227538	Jarrah	20+	>50	2+	Small & Medium	No Signs	No Signs	No
wpt040	50H	331701	6227531	Marri	15-20	>50	0				
wpt041	50H	331707	6227540	Marri	15-20	>50	0				
wpt042	50H	331735	6227547	Marri	15-20	>50	0				
wpt043	50H	331758	6227552	Marri	15-20	>50	0				
wpt044	50H	331806	6227566	Marri	20+	>50	0				
wpt045	50H	331804	6227568	Marri	20+	>50	0				
wpt046	50H	331796	6227569	Marri	20+	>50	0				
wpt047	50H	331785	6227563	Marri	20+	>50	0				
wpt048	50H	331775	6227571	Karri	20+	>50	0				
wpt049	50H	331777	6227577	Marri	15-20	>50	0				
wpt050	50H	331757	6227568	Marri	15-20	>50	0				
wpt051	50H	331749	6227573	Dead Marri	15-20	>50	0				
wpt052	50H	331738	6227575	Marri	20+	>50	0				
wpt053	50H	331724	6227572	Marri	15-20	>50	1	Small	No Signs	No Signs	No
wpt054	50H	331712	6227563	Marri	20+	>50	2+	Small & Medium	No Signs	No Signs	No
wpt055	50H	331714	6227558	Marri	15-20	>50	0				

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow
wpt056	50H	331707	6227575	Marri	15-20	>50	0				
wpt057	50H	331712	6227572	Marri	15-20	>50	0				
wpt058	50H	331712	6227576	Dead Marri	15-20	>50	0				
wpt059	50H	331712	6227575	Jarrah	15-20	>50	0				
wpt060	50H	331710	6227578	Marri	15-20	>50	0				
wpt061	50H	331717	6227593	Marri	15-20	>50	0				
wpt062	50H	331718	6227595	Marri	15-20	>50	0				
wpt063	50H	331715	6227602	Marri	15-20	>50	0				
wpt064	50H	331678	6227687	Marri	15-20	>50	0				
wpt065	50H	331667	6227689	Marri	15-20	>50	0				
wpt066	50H	331656	6227689	Dead Marri	15-20	>50	2+	Small	No Signs	No Signs	No
wpt067	50H	331652	6227685	Marri	15-20	>50	0				
wpt068	50H	331649	6227691	Marri	15-20	>50	0				
wpt069	50H	331644	6227693	Marri	15-20	>50	0				
wpt070	50H	331629	6227690	Marri	15-20	>50	0				
wpt071	50H	331624	6227694	Marri	15-20	>50	0				
wpt072	50H	331618	6227692	Marri	15-20	>50	0				
wpt073	50H	331613	6227679	Marri	15-20	>50	0				
wpt074	50H	331603	6227683	Marri	15-20	>50	0				
wpt075	50H	331594	6227691	Marri	15-20	>50	0				
wpt076	50H	331586	6227692	Dead Marri	15-20	>50	0				
wpt077	50H	331583	6227694	Marri	15-20	>50	0				
wpt078	50H	331576	6227691	Marri	15-20	>50	0				
wpt079	50H	331569	6227688	Marri	20+	>50	0				
wpt080	50H	331567	6227690	Marri	20+	>50	0				
wpt081	50H	331566	6227690	Marri	15-20	>50	0				
wpt082	50H	331548	6227693	Marri	15-20	>50	0				
wpt083	50H	331546	6227691	Marri	15-20	>50	0				
wpt084	50H	331544	6227690	Marri	15-20	>50	0				

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow
wpt085	50H	331538	6227695	Marri	15-20	>50	0				
wpt086	50H	331531	6227695	Marri	20+	>50	0				
wpt087	50H	331520	6227694	Marri	20+	>50	0				
wpt088	50H	331515	6227694	Marri	15-20	>50	0				
wpt089	50H	331513	6227692	Marri	15-20	>50	0				
wpt090	50H	331496	6227676	Marri	15-20	>50	0				
wpt091	50H	331508	6227669	Marri	15-20	>50	0				
wpt092	50H	331520	6227664	Marri	15-20	>50	0				
wpt093	50H	331535	6227665	Marri	15-20	>50	0				
wpt094	50H	331548	6227671	Jarrah	15-20	>50	0				
wpt095	50H	331553	6227664	Marri	15-20	>50	0				
wpt096	50H	331558	6227664	Marri	15-20	>50	0				
wpt097	50H	331577	6227675	Marri	15-20	>50	0				
wpt098	50H	331593	6227671	Marri	15-20	>50	0				
wpt099	50H	331600	6227665	Marri	15-20	>50	0				

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