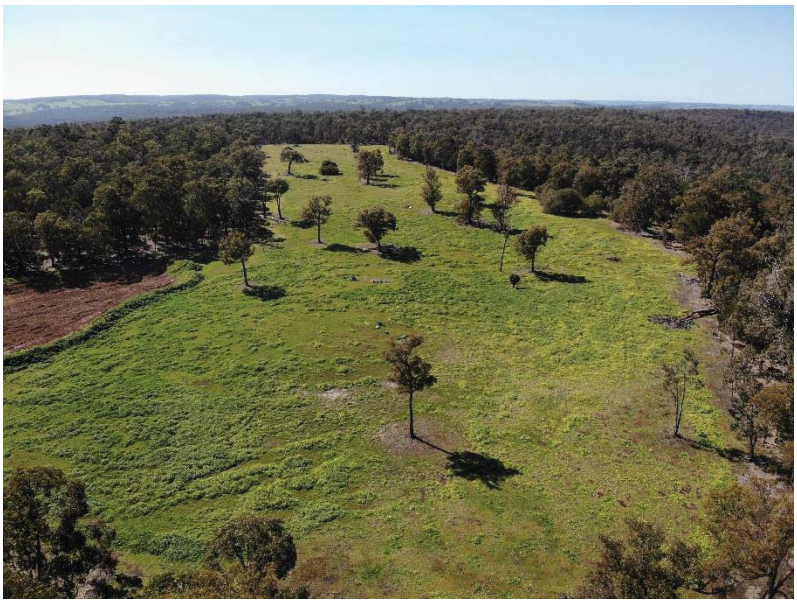
Black Cockatoo

Habitat Tree Assessment



Lot 333

Nybo Road

Gwindinup

September 2020

Version 1

On behalf of:
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SUMMARY

This report details the results of a black cockatoo habitat tree assessment carried out over a section of Lot 333 Nybo Road, Gwindinup.

The landowner (Cotton Holdings Pty Ltd) are in the process of applying to clear an area of land for the purpose of gravel extraction. An initial inspection of the area by Lundstrom Environmental Consultants identified the presence of a number of trees within and near the proposed clearing area, some with hollows or potential hollows (Figure 1).

As it is anticipated that Department of Water and Environmental Regulation (DWER) will request a survey for potential black cockatoo breeding habitat within the areas to be cleared this survey has been undertaken to provide the required information to allow for the application to proceed when it is submitted.

An inspection of trees within and near the proposed clearing area previously identified by Lundstrom Environmental Consultants was carried out by Greg Harewood (Zoologist - 17 years' experience) on the 15 September 2020. The assessment has involved the inspection of the 25 trees within the proposed clearing area.

Nine of the 25 trees inspected were found to have a DBH <50cm in addition to not contain any hollows and therefore do not qualify as "habitat trees" in the first instance.

Of the 16 remining trees 14 had a DBH >50cm but no contain hollows of any size. Two of these trees (wpt 10 and 12) had possible spout like hollows that were difficult to see from ground level but upon inspection with a drone were found to have no depth.

Two trees (wpt 13 and 16) contain hollows of various sizes however in all cases these were deemed to be unsuitable for black cockatoos due to entrance size being to small or if the accommodating branch was too small. One side entry hollow (<10cm entrance diameter) in tree wpt 16 showed evidence consistent with breeding galah activity i.e. hollow entranced chewed around entire perimeter.

As no trees were found to contain hollows that appeared suitable for black cockatoos to use for nesting purposes their removal will not impact on breeding black cockatoos.

1. INTRODUCTION

This report details the results of a black cockatoo habitat tree assessment carried out over a section of Lot 333 Nybo Road, Gwindinup.

The landowner (Cotton Holdings Pty Ltd) are in the process of applying to clear an area of land for the purpose of gravel extraction. An initial inspection of the area by Lundstrom Environmental Consultants identified the presence of a number of trees within and near the proposed clearing area, some with hollows or potential hollows (Figure 1).

As it is anticipated that Department of Water and Environmental Regulation (DWER) will request a survey for potential black cockatoo breeding habitat within the areas to be cleared this survey has been undertaken to provide the required information to allow for the application to proceed when it is submitted.

2. SCOPE OF WORKS

The scope of works are based on specifications typically provided by DWER when they request additional information on black cockatoo breeding habitat this being:

Information Requirements

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

Specifications

- 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(s) that may be suitable for breeding 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; and
    - a description/photo of the evidence of use.

- All surveys must be submitted in accordance with the EPA's Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA).

NOTE: DWER considers "fauna specialist" to mean a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016 (WA).*

3. METHODS

An inspection of trees within and near the proposed clearing area previously identified by Lundstrom Environmental Consultants was carried out by Greg Harewood (Zoologist - 17 years' experience) on the 15 September 2020. The assessment has involved the inspection of the 25 trees within the proposed clearing area.

The location of each tree was recorded with a GPS and details on tree species, number and size of hollows (if any) noted.

Identified hollows have initially been 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.

For the purpose of this review, hollows have then been placed into one of seven 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: The tree was not observed to contain any hollows.

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

Where the ground based assessment of possible large hollows was inconclusive a drone and/or pole mounted camera was available for use (if considered warranted and feasible) to examine and photograph potential hollows in more detail.

4. SURVEY CONSTRAINTS

No seasonal sampling has been 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 also be recognised that site conditions can change with time.

During the black cockatoo habitat survey 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, though to a certain extent some of these limitations can be overcome by using a drone or pole camera to examine possible hollows in more detail (if considered warranted and feasible).

5. RESULTS

The location of the trees inspected is shown in Figure 1. The details of each tree inspected can be found in Appendix A.

Nine of the 25 trees inspected were found to have a DBH <50cm in addition to not containing any hollows and therefore do not qualify as “habitat trees” in the first instance.

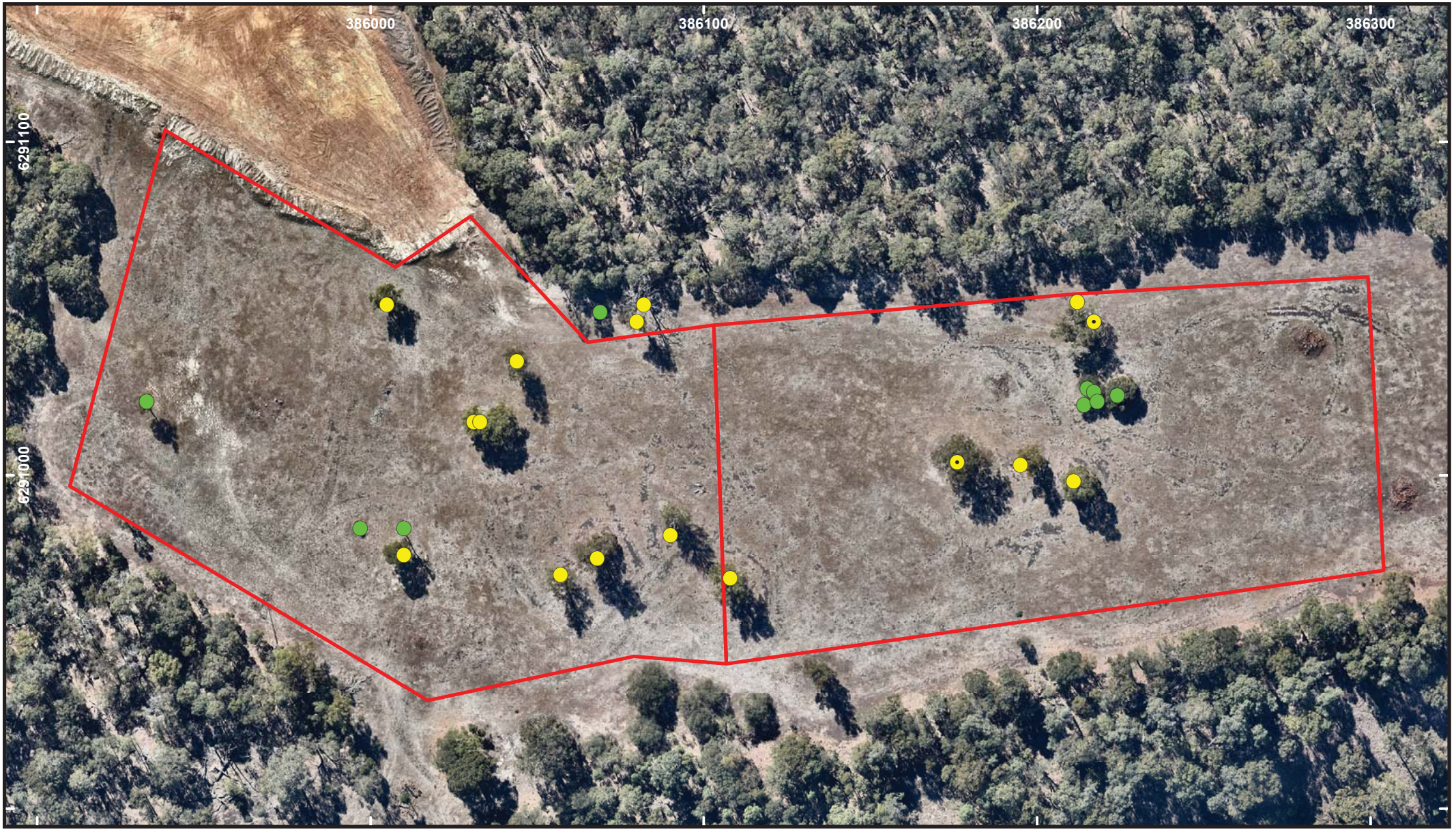
Of the 16 remining trees 14 had a DBH >50cm but no contain hollows of any size. Two of these trees (wpt 10 and 12) had possible spout like hollows that were difficult to see from ground level but upon inspection with a drone were found to have no depth.

Two trees (wpt 13 and 16) contain hollows of various sizes however in all cases these were deemed to be unsuitable for black cockatoos due to entrance size being to small or if the accommodating branch was too small. One side entry hollow (<10cm entrance diameter) in tree wpt 16 showed evidence consistent with breeding galah activity i.e. hollow entranced chewed around entire perimeter.

6. CONCLUSION

The assessment reported on here was undertaken to identify likely direct impacts on black cockatoos that may arise because of the proposed removal of trees within the proposed clearing area.

No trees were found to contain hollows that appeared suitable for black cockatoos to use for nesting purposes and therefore their removal will not impact on breeding black cockatoos.



Legend

- Proposed Clearing Area
- DBH <50cm - No hollows observed
- DBH >50cm - No hollows observed
- DBH >50cm - No hollows suitable for Black Cockatoos

N

0 25 50 75 100

Metres

Fauna Survey

Lot 333
Nybo Road Gwindinup

Trees Inspected

Drawn: G. Harewood	
Date: Sept 2020	
Scale: 1:1,546	
Projection/Coordinate System: UTM/MGA Zone 50	Figure: 1

APPENDIX A

TREE DETAILS

Habitat Trees(DBH >50cm)
Datum - GDA94
Entrance Size Ranges - Small = >5cm, Medium = 5 -10cm, Large = >10cm

Waypoint Number	Lundstrom Code	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt001	B	50H	385933	6291022	Jarrah	5-10	<50	0					
wpt002	A	50H	386005	6291051	Jarrah	5-10	>50	0					
wpt003	H	50H	386044	6291034	Jarrah	5-10	>50	0					
wpt004	G	50H	386031	6291016	Jarrah	5-10	>50	0					
wpt005	F	50H	386033	6291016	Jarrah	5-10	>50	0					
wpt006	C	50H	385997	6290984	Grass Tree	0-5	<50	0					
wpt007	D	50H	386010	6290984	Jarrah	5-10	<50	0					
wpt008	E	50H	386010	6290976	Jarrah	5-10	>50	0					
wpt009	I	50H	386057	6290970	Jarrah	5-10	>50	0					
wpt010	J	50H	386068	6290975	Jarrah	10-15	>50	0					Examined with drone - potential hollow has no depth
wpt011	K	50H	386090	6290982	Jarrah	10-15	>50	0					
wpt012	L	50H	386108	6290969	Jarrah	5-10	>50	0					Examined with drone - potential hollow has no depth
wpt013	M	50H	386176	6291004	Jarrah	10-15	>50	2+	Small-Medium-Large	No Signs	No Signs	No	Accomodating branches too small
wpt014	N	50H	386195	6291003	Jarrah	5-10	>50	0					
wpt015	O	50H	386211	6290998	Jarrah	5-10	>50	0					
wpt016	U	50H	386217	6291046	Jarrah	5-10	>50	2+	Small-Medium	No Signs	Galahs	No	Medium size side entry hollow - Signs of use by Galahs
wpt017	V	50H	386212	6291052	Jarrah	0-5	>50	0					
wpt018	NB2	50H	386080	6291046	Jarrah	5-10	>50	0					
wpt019	NB3	50H	386082	6291051	Jarrah	5-10	>50	0					
wpt020	NB1	50H	386069	6291049	Marri	0-5	<50	0					
wpt021	P	50H	386224	6291024	Peppermint	0-5	<50	0					
wpt022	Q	50H	386215	6291026	Peppermint	0-5	<50	0					
wpt023	R	50H	386214	6291021	Peppermint	0-5	<50	0					
wpt024	S	50H	386217	6291025	Peppermint	0-5	<50	0					
wpt025	T	50H	386218	6291022	Peppermint	0-5	<50	0					

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This fauna assessment report ("the report") has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Greg Harewood ("the Author"). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. In accordance with the scope of services, the Author has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

The conclusions 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 preparing the report. Also it should be recognised that site conditions, can change with time.

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