Black Cockatoo
Habitat Tree Assessment
CPS 8761/1

Lot 9882 and Lot 9883
Boorara Brook

January 2021
Version 1

On behalf of:
Peter Robert Beebe
PO Box 15
NORTHCLIFFE WA 6262

Prepared by:
Greg Harewood
Zoologist
PO Box 755
BUNBURY WA 6231
M: 0402 141 197
E: gharewood@iinet.net.au

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SUMMARY

This report details the results of a black cockatoo habitat tree assessment carried out over sections of Lot 9882 and Lot 9883, Boorara Brook.

The property owner is seeking permission to selectively clear up to 33 hectares (ha) of native vegetation present within the property from the Department of Water and Environmental Regulation (DWER) (ref: CPS 8761/1) (Figure 1).

A preliminary assessment and a site inspection by DWER identified that the application area is likely to contain potential breeding habitat trees for black cockatoos and as a consequence they have requested that additional information relating to their presence within the application area be obtained and forwarded for review. The fauna assessment detailed in this report seeks to satisfy this requirement.

A daytime survey of the application area was carried out by Greg Harewood (Zoologist – 18 years' experience) the 15 January 2021.

The vast majority of the trees present within the application area were found to be relatively young and as a consequence most do not contain hollows, or if present, what appeared to be only small hollows that would be unsuitable for black cockatoos to use for nesting.

Two trees were identified within the application area as containing one or more possible hollows potentially suitable for black cockatoos to use for nesting purposes. Upon closer inspection with a drone both were assessed as not having hollows suitable for black cockatoos to use for nesting.

Based on the results of the assessment it is concluded that the proposed clearing can be carried out without significantly impacting on any existing black cockatoo breeding habitat.

This report should be forwarded to DWER for their consideration

1. INTRODUCTION

This report details the results of a black cockatoo habitat tree assessment carried out over sections of Lot 9882 and Lot 9883, Boorara Brook.

The property owner is seeking permission to selectively clear up to 33 hectares (ha) of native vegetation present within the property from the Department of Water and Environmental Regulation (DWER) (ref: CPS 8761/1) (Figure 1).

A preliminary assessment and a site inspection by DWER identified that the application area is likely to contain potential breeding trees for Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and the forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*). DWER have requested that additional information relating to the presence of breeding habitat trees within the application area be obtained and forwarded for review. The fauna assessment detailed in this report seeks to satisfy this requirement.

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

2. SCOPE OF WORKS

The scope of works is based on specifications provided in DWER's request for additional information (DWER 2020) as they relate to fauna which states:

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;

Legend

- 8791_1 Habitat trees inspected
- CPS 8791/1 Boundary

N

0 50 100 150 200 250

Metres

Fauna Survey

Drawn: G Harewood	
Date: Jan 2021	
Scale: 1: 50,000	
Projection/Coordinate System: UTM/MGA Zone 50	Figure: 1

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Aerial Photograph & Trees Inspected

- 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 specialising in environmental science or equivalent, and has a minimum of two years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016 (WA)*.

3. METHODS

A daytime survey of the application area was carried out by Greg Harewood (Zoologist – 18 years' experience) on the 15 January 2021.

The assessment involved a series of transects across the application area while searching for trees which contained or were suspected of containing one or more hollows that appeared suitable or potentially suitable for black cockatoos to use for nesting purposes.

Details on each tree were recorded including species, location, number and type of hollows observed. Potential 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.

For the purpose of this review, 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.

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 possible each potential hollow was also inspected and photographed with a drone and/or pole mounted camera.

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 (where considered warranted and feasible).

5. RESULTS

The application area consists of two areas of vegetation (Figure 1). The southern area contains a mosaic of karri (*Eucalyptus diversicolor*), marri (*Corymbia calophylla*), jarrah (*E. marginata*) and peppermint (*Agonis flexuosa*) trees. In the western section understory consists of sedges. To the east bracken fern forms a thick shrubland.

The northern area of vegetation consists mostly of an open woodland of marri and jarrah over most of its area with some karri being present in the western section and blackbutt in the east. Understory vegetation generally consists of a dense tall shrubland.

The vast majority of the trees present are relatively young and appear to represent regrowth from historical clearing events estimated to have been undertaken about 100 years ago (Clarke 2019). Because of their relatively young age most trees do not contain hollows, or if present, what appeared to be only small hollows that would be unsuitable for black cockatoos to use for nesting.

During the survey two trees were identified within the application area as containing one or more possible hollows potentially suitable for black cockatoos to use for nesting purposes. The location of these trees is shown in Figure 1.

Hollows in both these trees were, upon closer inspection with a drone found to be unsuitable for black cockatoos. This conclusion was in most cases based on the hollows being too small/shallow/open. In several cases the suspected hollow was found to be non-existent.

Details of each tree and the hollows they contain can be found in Appendix A.

A summary of observations made are provided in Table 1 below.

Table 1: Summary of Habitat Tree Observations

Tree ID	Number of Hollows	Status	Justification
1	3	No Hollows	This dead jarrah contains what initially appeared to be two upward facing spouts and a side entry hollow. The drone inspection showed that none of the suspect hollows had any depth. All hollows inspected deemed unsuitable for black cockatoos to use for nesting purposes.
2	1	No Hollow	This jarrah tree appeared to have a possible chimney style hollow but upon inspection with a drone was found to be non-existent/very shallow.

6. CONCLUSION

The assessment reported on here was primarily undertaken to identify trees within the application area that contain hollows suitable for use by black cockatoos for nesting purposes.

The vast majority of the trees present within the application area were found to be relatively young and as a consequence most do not contain hollows, or if present, what appeared to be only small hollows that would be unsuitable for black cockatoos to use for nesting.

Two trees were identified within the application area as containing one or more possible hollows potentially suitable for black cockatoos to use for nesting purposes. Upon closer inspection with a drone both were assessed as not having hollows suitable for black cockatoos to use for nesting.

Based on the results of the assessment it is concluded that the proposed clearing can be carried out without significantly impacting on any existing black cockatoo breeding habitat.

This report should be forwarded to DWER for their consideration.

7. REFERENCES

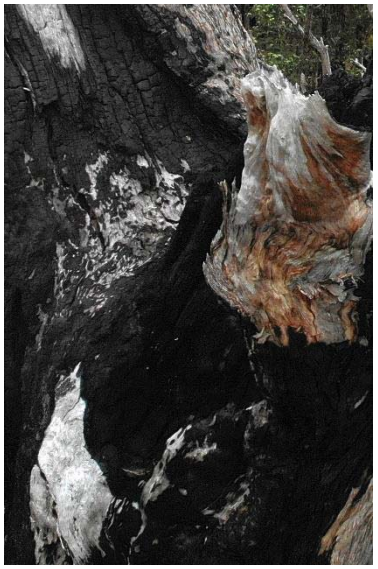
Clarke, J. (2019). Management Plan to accompany application for a clearing permit (area permit) – From C1 from DWER for Peter Robert Beebe.

Department of Water and Environmental Regulation (DWER 2020). Application to Clear Native Vegetation under the Environmental Protection Act 1986 – Request for information (CPS 8761/1). 23 April 2020.

APPENDIX A

Details of Trees Inspected

WPT	Coordinates (MGA 94/Z50)	424536 mE	6162534 mN	Tree Species	Dead Jarrah	Survey Date	15/01/2021
1	Comments	This dead jarrah contains what initially appeared to be two upward facing spouts and a side entry hollow. The drone inspection showed that none of the suspect hollows had any depth. All hollows inspected deemed unsuitable for black cockatoos to use for nesting purposes. No signs of use by any fauna.				Classification	No Hollows



WPT	Coordinates (MGA 94/Z50)	424566 mE	6162553 mN	Tree Species	Jarrah	Survey Date	15/01/2021
2	Comments	This jarrah tree appeared to have a possible chimney style hollow but upon inspection with a drone was found to be non-existent/very shallow. No signs of use by any fauna.				Classification	No Hollow

DISCLAIMER

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 Ecoedge ("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.

Within the limitations imposed by the scope of services, the field assessment and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

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