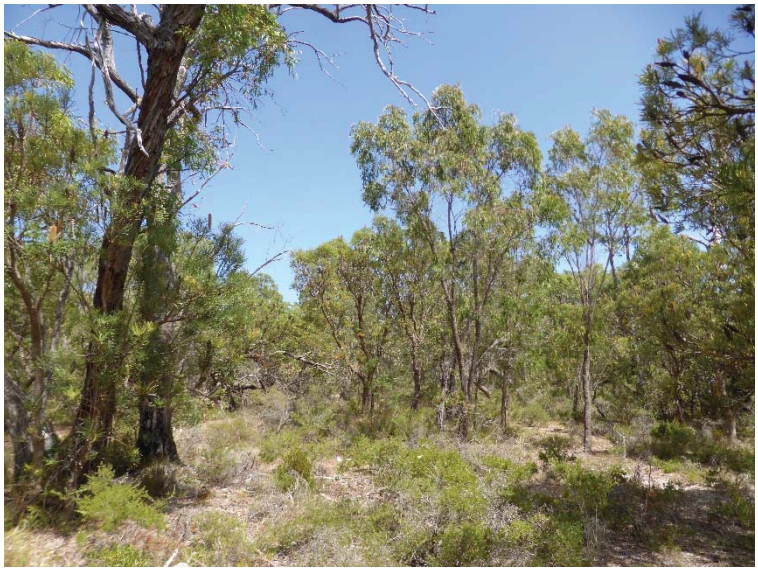
Black Cockatoo

Habitat Tree Review

CPS 8479/1



Lot 4 Runnymede Road

Wellesley

March 2022

Version 1

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SUMMARY

This report details the results of a black cockatoo habitat tree review carried out over an area of proposed clearing within Lot 4 Runnymede Road, Wellesley (the subject site) (Figure 1).

A fauna assessment was carried out over the original 18.9 ha permit area in late 2019 by the Author during which time eight trees were identified has potentially containing hollows suitable for black cockatoos to use for nesting purposes (Harewood 2020).

In order to assist in determining the impacts to black cockatoos a more detailed habitat tree assessment of the eight previously identified hollow bearing trees has been carried out. This report details the methods used and the results of this review.

It should be noted that only two of the eight trees reviewed fall within the currently proposed clearing area (Figure1).

Primary Findings

None of the hollow bearing trees examined were found to contain hollows that were considered by the Author to be suitable for black cockatoos to use for nesting purposes. This conclusion was in most cases based on the hollows actually being non-existent or being too small/shallow/open.

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

1. INTRODUCTION

This report details the results of a black cockatoo habitat tree review carried out over an area of proposed clearing within Lot 4 Runnymede Road, Wellesley (the subject site) (Figure 1).

The landowners (B & J Catalano Pty Ltd) are proposing to clear up to 10.2 hectares (ha) of vegetation from within the subject site for the purpose of continuing sand extraction and have applied to the Department of Water and Environmental Regulation (DWER) for a clearing permit (CPS 8479/1) pursuant to Section 51E of the *Environmental Protection Act 1986* (Figure 2).

A fauna assessment was carried out over the original 18.9 ha permit area in late 2019 by the Author during which time eight trees were identified has potentially containing hollows suitable for black cockatoos to use for nesting purposes (Harewood 2020).

As this assessment was carried out from ground level some uncertainty existed about the true nature of the hollows/possible hollows in each of these particular habitat trees. In order to assist in determining the impacts to black cockatoos a more detailed habitat tree assessment of the eight previously identified hollow bearing trees has therefore been carried out. This report details the methods used and the results of this review.

It should be noted that only two of the eight trees reviewed fall within the currently proposed clearing area (Figure1).

2. SCOPE OF WORKS

The scope of works was:

- Locate and examine in detail the eight previously identified trees containing possible large hollows using a drone/pole mounted camera so as to obtain information on their likely suitability as breeding habitat for black cockatoo cockatoos.

Note: For the purposes of this report 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

The eight previously identified hollow bearing trees were located in the field and each hollow (or possible hollow) was examined and photographed using a drone (DJI Mavic Mini) in as much detail as possible.

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.

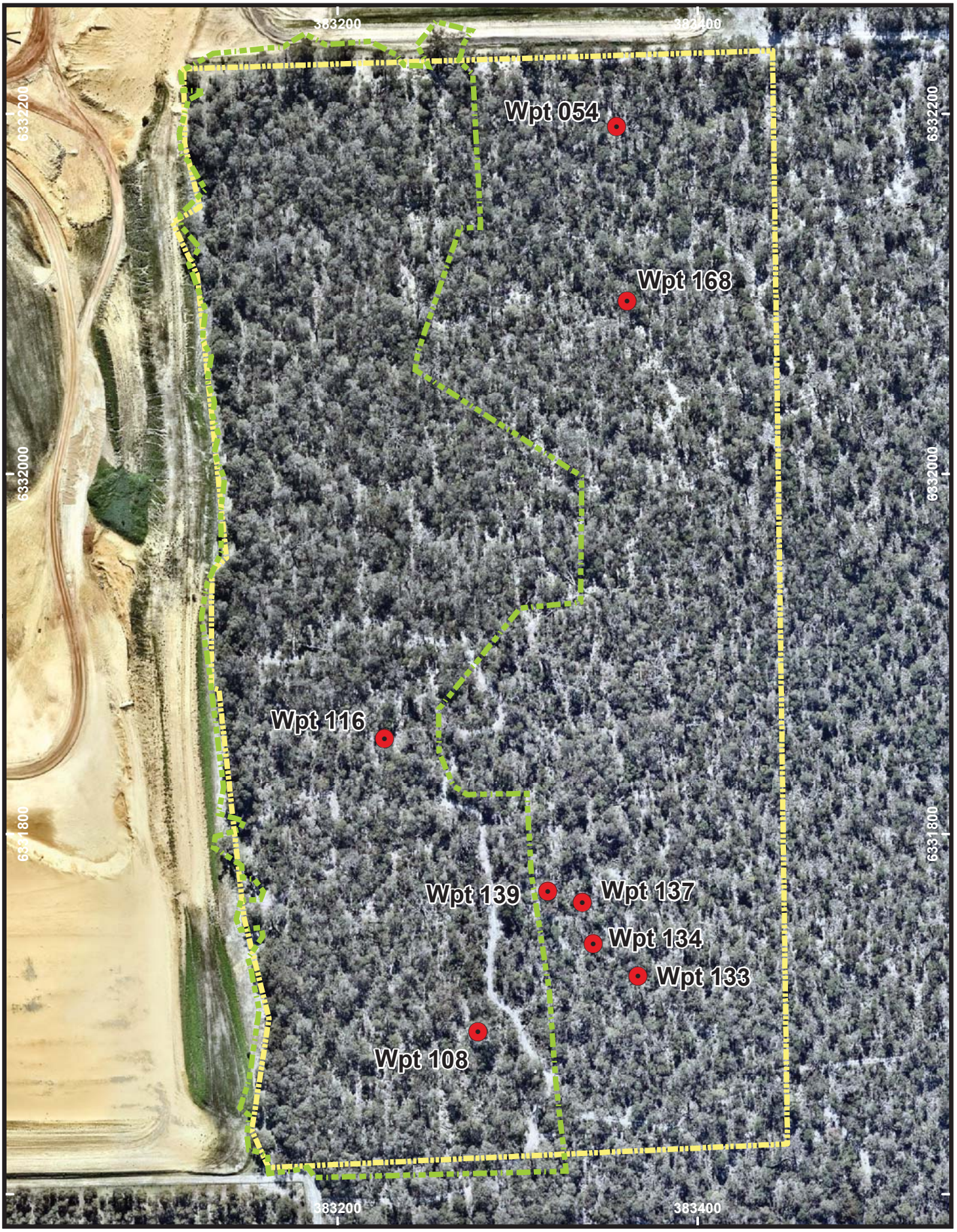
For the purpose of this review, hollows have then been placed into one of five categories based on the observable characteristics of each hollow. The categories used were:

- 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.
-

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 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).



Legend

- Current CPS 8479/1 Boundary
- Original CPS 8479/1 Boundary
- Habitat Tree Subject to Review

0 25 50 75 100
Metres

Fauna Survey

Lot 4 Runnymede Road
Wellesley

Aerial Photograph & Trees Inspected

Drawn: G Harewood
Date: Mar 2022
Scale: 1:2,750
Projection/Coordinate System: UTM/MGA Zone 50

Figure: 1

5. RESULTS

None of the hollow bearing trees examined were found to contain hollows that were considered by the Author to be suitable for black cockatoos to use for nesting purposes. This conclusion was in most cases based on the hollows actually being non-existent or being too small/shallow/open.

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 Possible Large Hollows	Status	Justification
Located in original and current clearing area			
Wpt 108	4	No Hollows/ Unsuitable Hollows.	Jarrah with three possible spout type hollows and a possible sided entry hollow. Hollows were found to be either non-existent or very shallow (and therefore unsuitable for black cockatoos).
Wpt 116	2	Unsuitable Hollows.	Dead "stag" with a possible upward facing spout type hollow and one large horizontal branch. The upward facing spout contains a hollow that has a large (>10cm) entrance however internally it appears too small/obstructed to be suitable for black cockatoos. The horizontal branch does not appear to contain a hollow that could be considered suitable for black cockatoos.
Located in original clearing area			
Wpt 054	2	Unsuitable Hollows.	Dead jarrah with two possible large side entry type hollows. Both hollows have large (>10cm) entrances however both are shallow/very shallow and appear to be unsuitable for black cockatoos to use for nesting purposes.
Wpt 133	2	No Hollows/Unsuitable hollows.	Jarrah with a possible large hollow in the fork of two trunks and a possible large chimney type hollow. Both potential hollows are very shallow and appear to be unsuitable for black cockatoos to use for nesting purposes.
Wpt 134	1	Unsuitable Hollow.	Marri with a possible large chimney type hollow. The hollow was found to be very shallow and appeared to be unsuitable for black cockatoos to use for nesting purposes.
Wpt 137	3	Non-existent/Unsuitable Hollows.	Jarrah with two upward facing possible spout type hollows and a large side entry hollow. One of the upward facing spouts was found to contain a very shallow hollow while the other did not contain a hollow at all both being assessed as being unsuitable for black cockatoos. The side entry hollow was occupied by a common brushtail possum but appeared too small internally to be suitable for black cockatoos to use for nesting purposes.
Wpt 139	3	Non-existent/Unsuitable Hollows.	Jarrah with two upward facing possible spout type hollows and a large side entry hollow. Both upward facing spouts were found to be very shallow and not represent hollows at all. The side entry hollow was very shallow and appeared too small internally to be suitable for black cockatoos to use for nesting purposes.
Wpt 168	2	Non-existent/Unsuitable Hollows.	Dead tree with two possible large spout type hollows. Potential hollows were found to be either non-existent or very shallow (and therefore unsuitable for black cockatoos.

6. CONCLUSION

The assessment reported on here was undertaken to identify black cockatoo breeding hollows within eight previously identified hollow bearing trees.

None of the hollow bearing trees examined were found to contain hollows that were considered by the Author to be suitable for black cockatoos to use for nesting purposes. This conclusion was in most cases based on the hollows actually being non-existent or being too small/shallow/open.

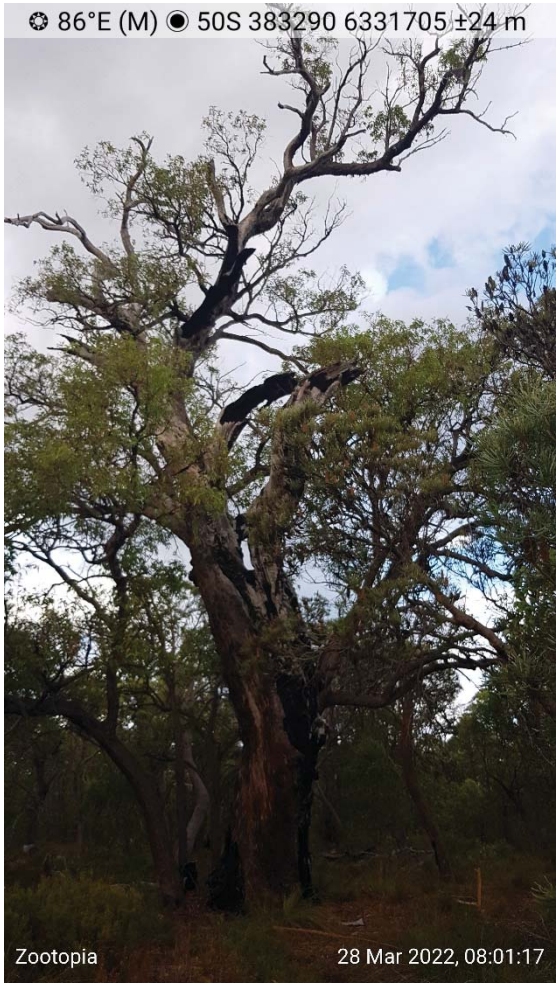
7. REFERENCES

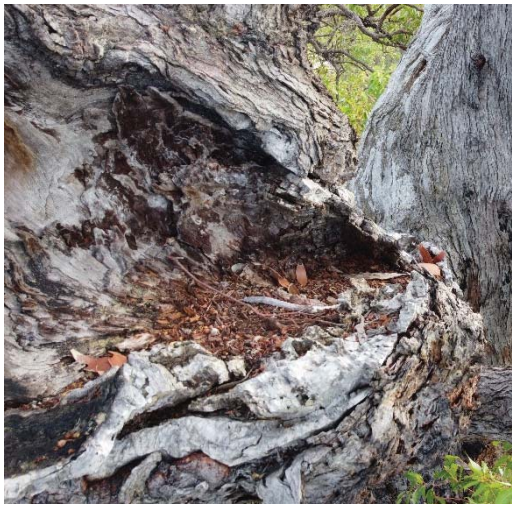
Harewood, G. (2020). Fauna Assessment Lot 4 Runnymede Road (CPS 8479/1) Wellesley. Unpublished report for B & J Catalano Pty Ltd. January 2020.

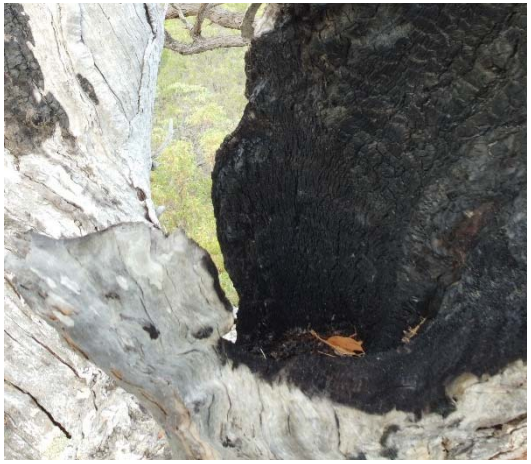
APPENDIX A

Details of Trees Inspected

WPT	Coordinates (MGA 94/Z50)	383278 mE	6331690 mN	Tree Species	Jarrah	Survey Date	28/03/2022
108	Comments	Jarrah with several possible spout type hollows and a possible sided entry hollow. Potential hollows were examined and photographed with a drone and were found to be either non-existent or very shallow (and therefore unsuitable for black cockatoos). No sign of any fauna activity observed.				Classification	No Hollows/Unsuitable Hollows.

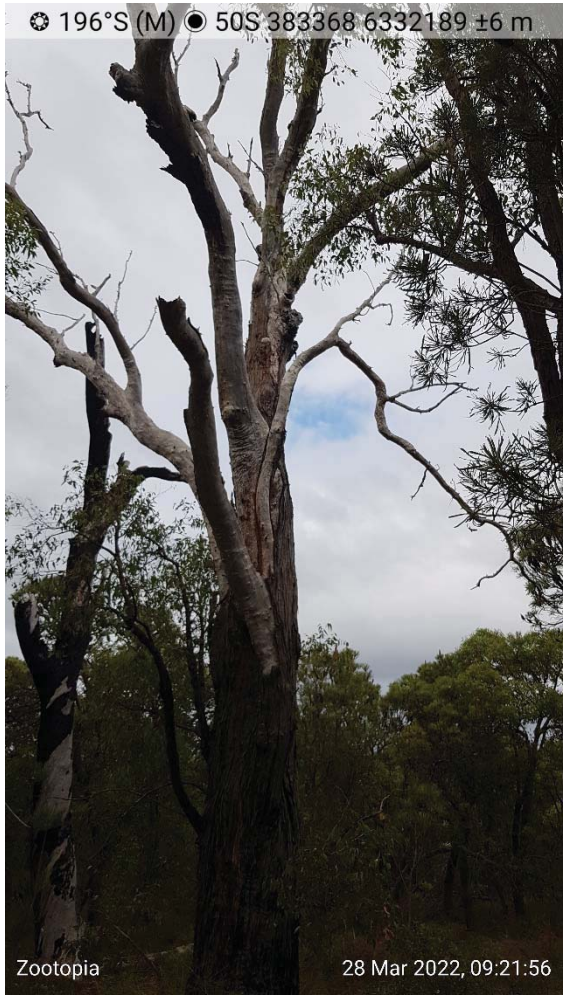




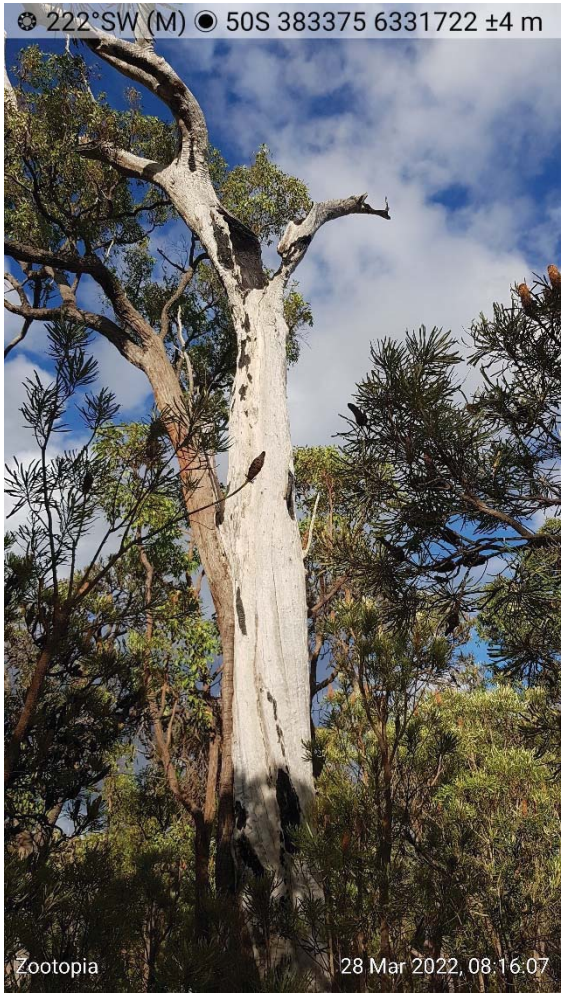


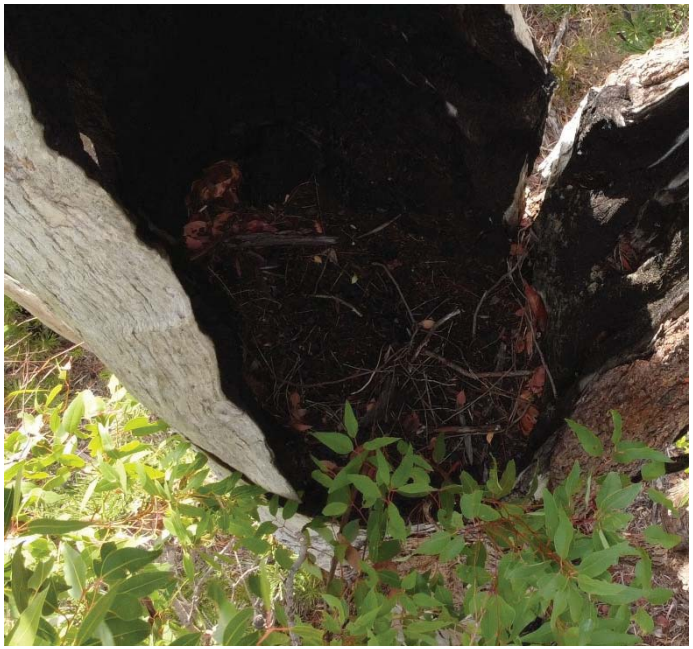
WPT	Coordinates (MGA 94/Z50)	383225 mE	6331852 mN	Tree Species	Dead Unknown	Survey Date	28/03/2022
116	**Comments**	Dead "stag" with a possible upward facing spout type hollow and one large horizontal branch. Potential hollows were examined and photographed with a drone. The upward facing spout contains a hollow that has a large (>10cm) entrance however internally it appears too small/obstructed to be suitable for black cockatoos. The horizontal branch does not appear to contain a hollow that could be considered suitable for black cockatoos. No sign of any fauna activity observed.				**Classification**	Unsuitable Hollows.

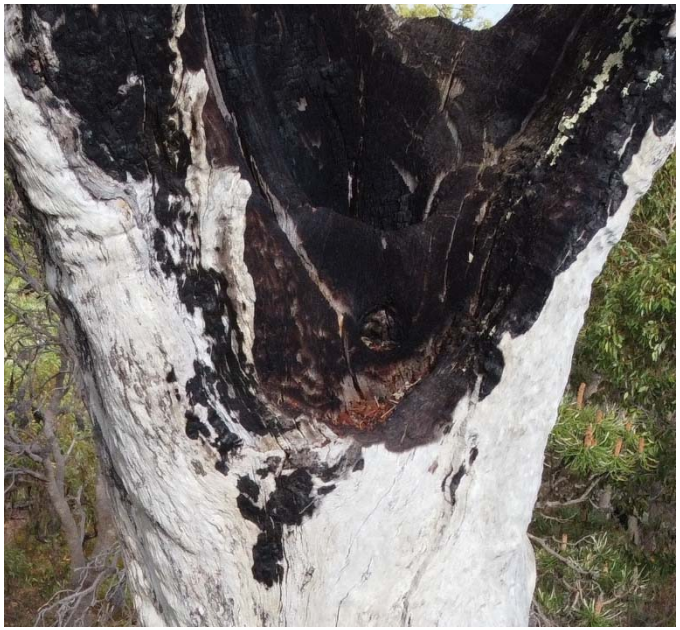
WPT	Coordinates (MGA 94/Z50)	383355 mE	6332192 mN	Tree Species	Dead Jarrah	Survey Date	28/03/2022
054	Comments	Dead jarrah with two possible large side entry type hollows which were examined and photographed with a drone. Both hollows have large (>10cm) entrances however both are shallow/very shallow and appear to be unsuitable for black cockatoos to use for nesting purposes. No sign of any fauna activity observed.				Classification	Unsuitable hollows.



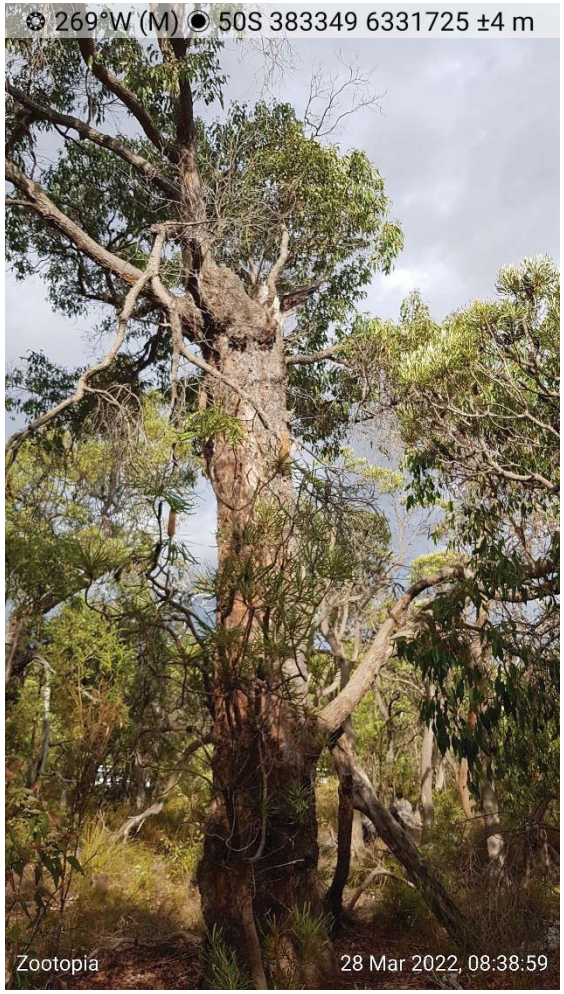
WPT	Coordinates (MGA 94/Z50)	383367 mE	6331721 mN	Tree Species	Jarrah	Survey Date	28/03/2022
133	Comments	Jarrah with a possible large hollow in the fork of two trunks and a possible large chimney type hollow which were examined and photographed with a drone. Both potential hollows are very shallow and appear to be unsuitable for black cockatoos to use for nesting purposes. No sign of any fauna activity observed.				Classification	No Hollows/Unsuitable hollows.



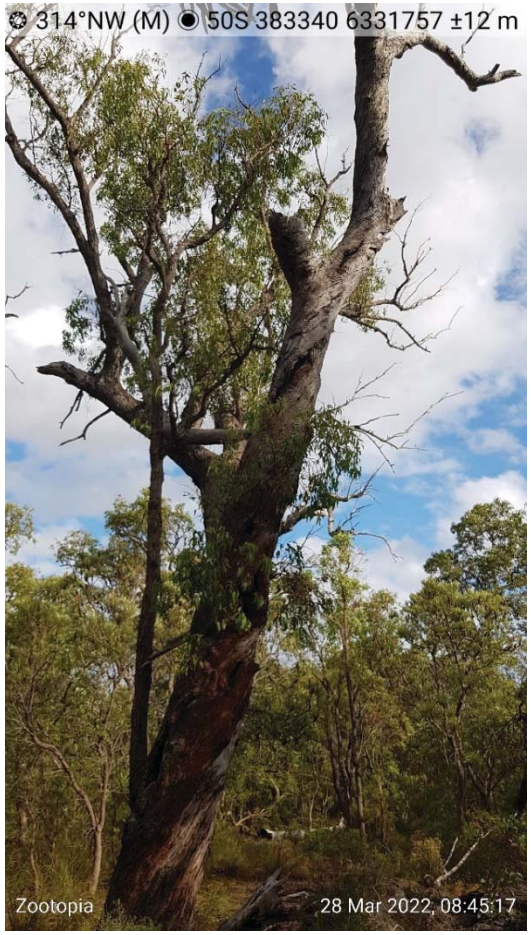


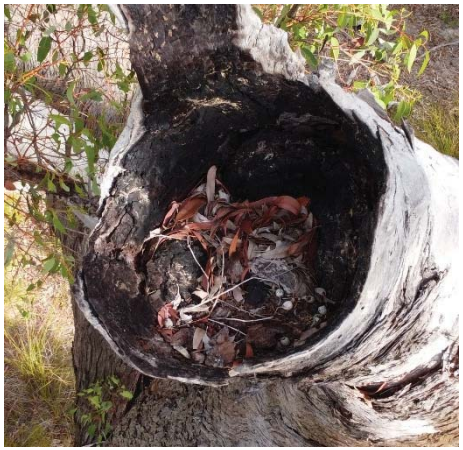


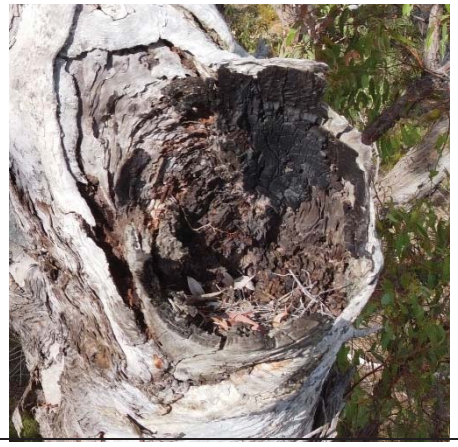
WPT	Coordinates (MGA 94/Z50)	383341 mE	6331738 mN	Tree Species	Marri	Survey Date	28/03/2022
134	Comments	Marri with a possible large chimney type hollow which was examined and photographed with a drone. The hollow was found to be very shallow and appeared to be unsuitable for black cockatoos to use for nesting purposes. No sign of any fauna activity observed.				Classification	Unsuitable Hollow.



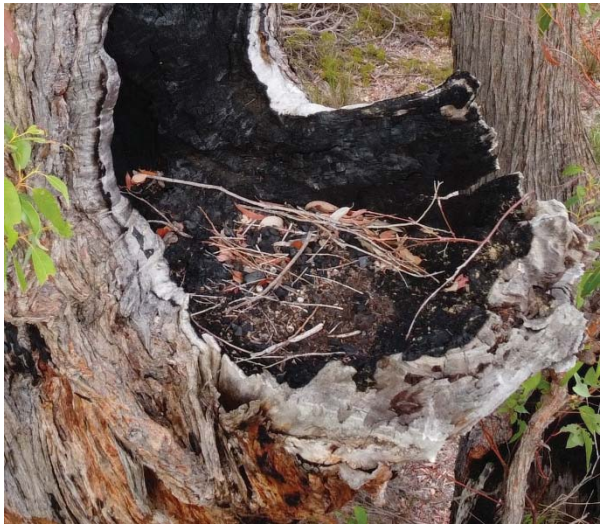
WPT	Coordinates (MGA 94/Z50)	383336 mE	6331762 mN	Tree Species	Jarrah	Survey Date	28/03/2022
137	**Comments**	Jarrah with two upward facing possible spout type hollows and a large side entry hollow. Potential hollows were examined and photographed with a drone. One of the upward facing spouts was found to contain a very shallow hollow while the other did not contain a hollow at all both being assessed as being unsuitable for black cockatoos. The side entry hollow was occupied by a common brushtail possum but appeared too small internally to be suitable for black cockatoos to use for nesting purposes. No sign of any other fauna activity observed.				**Classification**	No Hollows /Unsuitable Hollows.



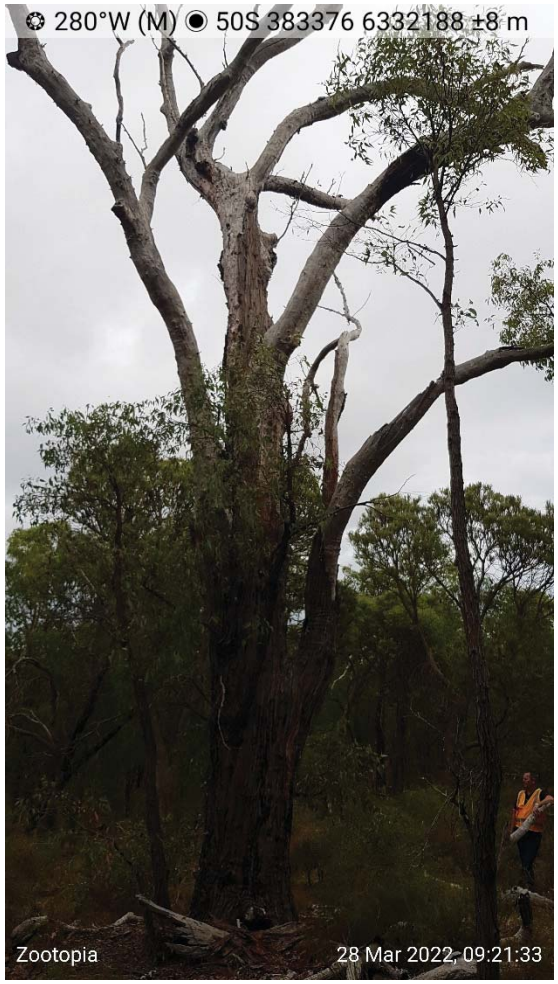


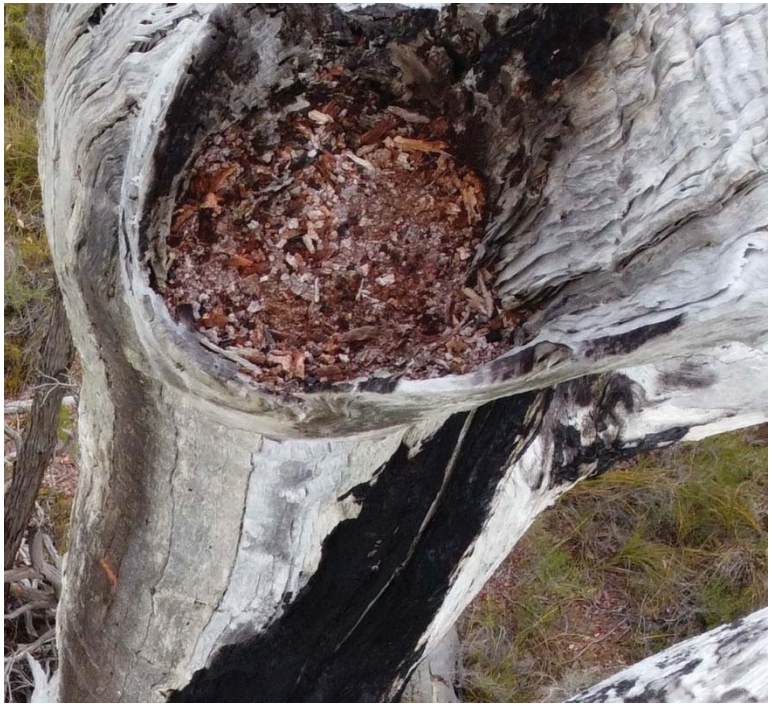


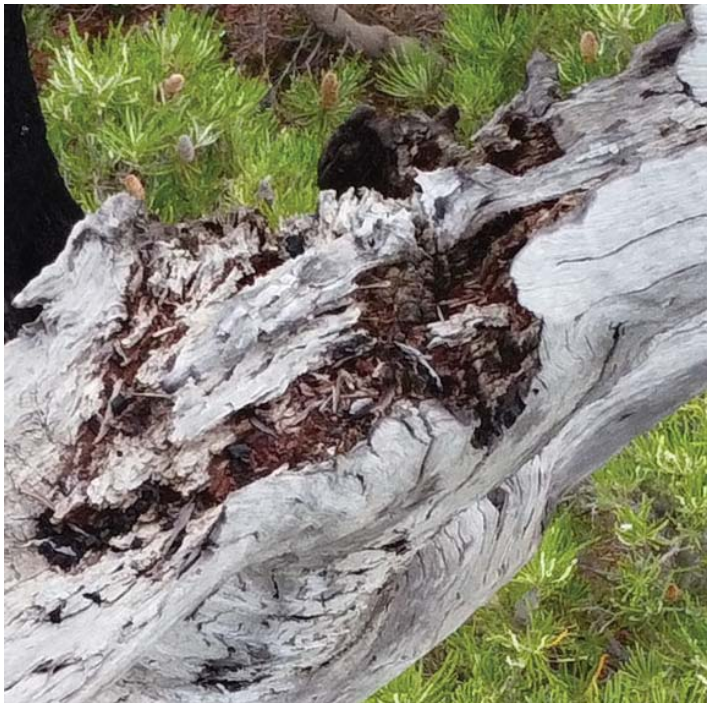
WPT	Coordinates (MGA 94/Z50)	383317 mE	6331767 mN	Tree Species	Jarrah	Survey Date	28/03/2022
139	**Comments**	Jarrah with two upward facing possible spout type hollows and a large side entry hollow. Potential hollows were examined and photographed with a drone. Both upward facing spouts were found to be very shallow and not represent hollows at all. The side entry hollow was very shallow and appeared too small internally to be suitable for black cockatoos to use for nesting purposes. No sign of any other fauna activity observed.				**Classification**	No Hollows /Unsuitable Hollows.



WPT	Coordinates (MGA 94/Z50)	383361 mE	6332096 mN	Tree Species	Dead Unknown	Survey Date	28/03/2022
168	Comments	Dead tree with two possible large spout type hollows. Potential hollows were examined and photographed with a drone and were found to be either non-existent or very shallow (and therefore unsuitable for black cockatoos. No sign of any fauna activity observed.				Classification	No Hollows /Unsuitable Hollows.







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