

Habitat Tree Assessment of Proposed Clearing Areas



Cuballing East Road (SLK 0.00 to SLK 18.00)

Shire of Cuballing

April 2020

Version 1

On behalf of:

Shire of Cuballing
PO Box 13
CUBALLING WA 6311
T: (08) 9883 6031



Prepared by:

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



TABLE OF CONTENTS

SUMMARY

1.	INTRODUCTION	1
2.	SCOPE OF WORKS.....	1
3.	METHODS	2
4.	SURVEY CONSTRAINTS	3
5.	RESULTS	4
6.	CONCLUSION	5

TABLES

TABLE 1:	Summary of Habitat Trees Recorded within the Survey Area
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FIGURES

FIGURE 1:	Habitat Trees
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APPENDICES

APPENDIX A:	Habitat Tree Details
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SUMMARY

This report details the results of a habitat tree assessment carried out along a 18-kilometre section of the Cuballing East Road (~SLK 00.00 to ~SLK 18.00) (the survey area) in the Shire of Cuballing (the Shire). The Shire has identified vegetation along the road reserve that may need removal to allow for proposed road works. A subset of the vegetation is represented by hollow bearing trees potentially suitable for use by black cockatoos and other fauna (e.g. red-tailed phascogale).

The Shire will soon be applying for a clearing permit and it is anticipated that the Department of Water and Environmental Regulation (DWER) will require any hollow bearing trees to be specifically identified and inspected prior to clearing being undertaken. This report details the results of an initial inspection of the vegetation with the aim of identifying any significant hollow bearing trees.

An inspection of the survey area was carried out by Greg Harewood (Zoologist - 19 years' experience) on the 8 February 2021.

The assessment has involved the identification of all suitable tree species within the survey area previously identified by the Shire (generally marked with a blue paint dot) that have a Diameter at Breast Height (DBH) of equal to or over 50cm (<30cm for wandoo/salmon gum) and containing hollows or apparent hollows possibly suitable for black cockatoos and/or phascogales.

The initial survey identified 17 "habitat trees" as potentially containing hollows possibly suitable for black cockatoos and/or phascogales. Where possible these potential hollows were examined in more detail using a pole camera.

Of the 17 potential hollow bearing trees 15 were assessed as being unsuitable for black cockatoos. This conclusion was based largely on the fact that most hollows or apparent hollows appeared to only have small (<10cm) entrances into hollows unlikely to accommodate a black cockatoo. The two remaining trees (SLK 8.58 and 12.18) both appeared to have hollows large enough for black cockatoos, though no evidence of use was observed at the time of the survey.

Fourteen trees were assessed as containing hollows or possible hollows potentially suitable for red-tailed phascogales. No evidence of phascogales using hollows was found though this was in most cases based on external examination of hollows with binoculars only, as hollows could not be examined internally. It is however considered unlikely this area would be inhabited by phascogales given the fact that they generally occur at low densities, the degraded and fragmented nature of the vegetation in the wider area.

Additional details of each tree can be found in Appendix A.

Subject to clearing approval being obtained from DWER it is recommended that the trees in question be examined immediately prior to clearing taking place so that appropriate management measures can be employed in the event animals are encountered.

1. INTRODUCTION

This report details the results of a habitat tree assessment carried out along a 18-kilometre section of the Cuballing East Road (~SLK 00.00 to ~SLK 18.00) (the survey area) in the Shire of Cuballing (the Shire).

The Shire has identified vegetation along the road reserve that may need removal to allow for proposed road works. A subset of the vegetation is represented by hollow bearing trees potentially suitable for use by black cockatoos and other fauna (e.g. red-tailed phascogale).

The Shire have identified about 577 trees/large shrubs within the proposed clearing footprint all of which have been marked for easy identification during clearing operations. Of these about 400 are eucalypts of various species and age.

The Shire will soon be applying for a clearing permit and it is anticipated that the Department of Water and Environmental Regulation (DWER) will require any hollow bearing trees to be specifically identified and inspected prior to clearing being undertaken. This report details the results of an initial inspection of the vegetation with the aim of identifying any significant hollow bearing trees.

2. SCOPE OF WORKS

The scope of works is to comply with anticipated requirements of DWER this being:

Information requirements

A habitat tree survey is required for the proposed application area;

Specifications

The survey is required to identify (within the previously marked trees):

- All trees of the *Eucalyptus/Corymbia* genus that contain a hollow(s) that may be suitable to be used by red-tailed phascogale (*Phascogale calura*); and
- All trees of the *Eucalyptus/Corymbia* genus that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater (or 30 centimetres or greater for salmon gum and wandoo) that contain a hollow(s) that may be suitable for breeding by Carnaby's cockatoo (*Calyptrorhynchus latirostris*).
- The survey must also identify any evidence of use of any recorded hollows by red-tailed phascogale or Carnaby's 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 red-tailed phascogale or Carnaby's cockatoo and
- the methodology for determining the evidence of use of each hollow and a description/photo of the evidence.

3. METHODS

An inspection of the survey area was carried out by Greg Harewood (Zoologist - 19 years' experience) on the 8 February 2021.

The assessment has involved the identification of all suitable tree species within the survey area previously identified by the Shire (generally marked with a blue paint dot) that have a Diameter at Breast Height (DBH) of equal to or over 50cm (<30cm for wandoo/salmon gum) and containing hollows or apparent hollows possibly suitable for black cockatoos and/or phascogales. The DBH was estimated using a pre-made caliper. Borderline trees (i.e. those of which the DBH was uncertain) were measured with a DBH tape.

Target tree species included wandoo, jarrah, marri or any other *Corymbia/Eucalyptus* species of a suitable size that was present.

The location of each tree identified fitting the required criteria were recorded with a GPS and details on tree species, number and size of hollows (if any) noted. Trees observed to contain possible hollows (of any size/type) were marked with "H" using spray paint.

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.

Hollows were then categorised, based on the size of the apparent hollow entrance, these being:

- Small = ~<5cm diameter (i.e. entrance appears too small for a black cockatoo but possibly suitable for phascogales);

- Medium = ~5cm-10cm diameter (i.e. entrance appears too small for a black cockatoo but possibly suitable for phascogales);
- Large = ~>10cm diameter (entrance appears large enough for a black cockatoo, but possible hollow appears to be unsuitable for nesting i.e. wrong orientation, too small, too low or too shallow but possibly suitable for phascogales); or
- Large (cockatoo) = ~>10cm diameter (entrance appears big enough to provide access to a possible hollow that maybe suitable for a black cockatoo to use for nesting and possible suitable for phascogales).

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

- Tree <50cm DBH (<30cm for wandoo/salmon gum) or an unsuitable species (not assessed/recorded);
- Tree >50cm DBH (<30cm for wandoo/salmon gum), no hollows seen;
- Tree \geq 50cm DBH (<30cm for wandoo/salmon gum), one or more potential hollows seen, none of which were considered suitable for black cockatoos to use for nesting but possibly suitable for phascogales; or
- Tree \geq 50cm DBH (<30cm for wandoo/salmon gum), one or more potential hollows seen, with at least one considered possibly suitable for black cockatoos to use for nesting and also possibly suitable for phascogales.

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) and phascogales.

A drone was available for use however it could not be used on the day of the survey due to strong winds. A pole camera (using a GoPro camera) was utilised in some cases where hollows could be reached.

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 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/possible 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. It is also generally impossible to determine if hollows high in trees (for example) are in current use by fauna as it is not possible to look inside them.

Because of these limitations, any tree with a hollow or possible hollow was assumed to represent a potential “red-tailed phascogale habitat tree” as defined by DWER. It is however generally impossible to identify if any one hollow is in current use by phascogales as little, if any external evidence of use will exist and many hollows were impossible to examine internally.

5. RESULTS

A total of 17 “habitat trees” were initially identified as potentially containing hollows possibly suitable for black cockatoos and/or phascogales. A summary of the observations made is provided in Table 1 below. The location of the trees recorded are shown in Figure 1 & 2.

Table 1: Summary of Habitat Trees Recorded within the Survey Area

SLK	Side of Road	Tree Species	Number of Possible Hollows	Estimated Hollow Entrance Size	Comments	Potential Cockatoo Hollow	Potential Phascogale Hollow
7.72	South	Wandoo	2+	Small	Possible small hollows.	No	Yes
8.58	North	Wandoo	2+	Small, Medium & Large (Cockatoo)	Examined with pole camera - large upward facing spout.	Yes	Yes
8.63	North	Wandoo	2+	Small & Medium	Examined with pole camera - small/medium sized hollows.	No	Yes
9.18	South	Wandoo	2+	Small	Possible small hollows.	No	Yes
10.08	South	Wandoo	1	Small	Possible small hollow.	No	Yes
11.33	North	Wandoo	1	Medium	Possible medium sized spout type hollow - no signs of use.	No	Yes
12.18	South	Red Morrel	2+	Small, Medium & Large (Cockatoo)	One possible large side entry hollow - could not examine in detail.	Yes	Yes
12.98	South	Wandoo	1	Small	Possible small hollow.	No	Yes
13.66	South	Wandoo	2+	Small	Possible small hollows.	No	Yes
14.35	North	Wandoo	2+	Small & Medium	Possible small, medium hollows.	No	Yes
15.14	South	Wandoo	2+	Small & Medium	Examined with pole camera - small internal dimensions.	No	Yes
15.2	South	Dead Unknown	2+	Small, Medium & Large	Examined with pole camera - too shallow/exposed - unsuitable BC hollow.	No	No
15.25	South	Wandoo	1	Small	Examined with pole camera - no hollow/too shallow.	No	No
15.99	North	Wandoo	1	Small	Possible small hollow.	No	Yes
16.76	South	Red Morrel	1	Large	Examined with pole camera - too shallow/exposed - unsuitable BC hollow.	No	No
17.04	North	Wandoo	1	Small	Possible small hollow.	No	Yes
17.67	North	Wandoo	1	Small	Possible small hollow.	No	Yes

Note: Wandoo = Wandoo or Powderbark Wandoo

As indicated the initial survey identified 17 “habitat trees” as potentially containing hollows possibly suitable for black cockatoos and/or phascogales. Where possible these potential hollows were examined in more detail using a pole camera.

Of the 17 potential hollow bearing trees 15 were assessed as being unsuitable for black cockatoos. This conclusion was based largely on the fact that most hollows or apparent hollows appeared to only have small (<10cm) entrances into hollows unlikely to accommodate a black cockatoo. The two remaining trees (SLK 8.58 and 12.18) both appeared to have hollows large enough for black cockatoos, though no evidence of use was observed at the time of the survey.

Fourteen trees were assessed as containing hollows or possible hollows potentially suitable for red-tailed phascogales. No evidence of phascogales using hollows was found though this was in most cases based on external examination of hollows with binoculars only, as hollows could not be examined internally. It is however considered unlikely this area would be inhabited by phascogales given the fact that they generally occur at low densities, the degraded and fragmented nature of the vegetation in the wider area.

Additional details of each tree can be found in Appendix A.

6. CONCLUSION

The assessment reported on here was undertaken to identify the presence of any hollow bearing trees within the proposed works footprint and to assess their potential suitability for use by black cockatoos and/or phascogales.

The assessment identified a number of trees with one or more hollows potentially suitable for black cockatoos and/or phascogales however no actual evidence of any of the hollows being used by either of these species was found.

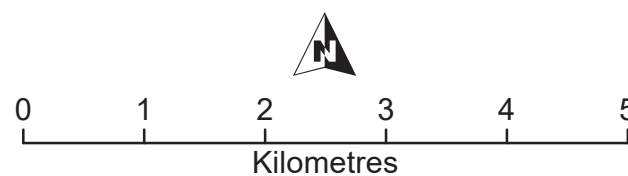
Subject to clearing approval being obtained from DWER it is recommended that the trees in question be examined immediately prior to clearing taking place so that appropriate management measures can be employed in the event animals are encountered.

FIGURES



Legend

- Cuballing East Road - Survey Area
- Hollow Bearing Habitat Trees



Drawn: G Harewood

Date: April 2021

Scale: 1: 50,000

Projection/Coordinate System: UTM/MGA Zone 50

Cuballing East Road
(SLK 1.23 to SLK 11.74)
Shire of Cuballing

Habitat Trees

Figure: 1

APPENDIX A

HABITAT TREE DETAILS

Habitat Trees
Datum - GDA 94

Waypoint Number	Zone	mE	mN	Side of Road	SLK	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Hollow Size	Comments	Potential Cockatoo Hollow	Potential Phascogale Hollow
EW294	50H	524145	6368568	S	7.72	Wandoo	15-20	>30	2+	Small	Possible small hollows	No	Yes
wpt032	50H	524852	6369079	N	8.58	Wandoo	10-15	>30	2+	Small, Medium & Large (Cockatoo)	Examined with pole camera - large upward facing spout	Yes	Yes
EW94	50H	524882	6369098	N	8.63	Wandoo	15-20	>30	2+	Small & Medium	Examined with pole camera - small/medium sized hollows	No	Yes
wpt029	50H	526086	6369920	S	9.18	Wandoo	15-20	>30	2+	Small	Possible small hollows	No	Yes
EW274	50H	526162	6369970	S	10.08	Wandoo	15-20	>30	1	Small	Possible small hollow	No	Yes
EW108	50H	527162	6370481	N	11.33	Wandoo	15-20	>30	1	Medium	Possible medium sized spout type hollow - no signs of use	No	Yes
wpt025	50H	527959	6370335	S	12.18	Red Morrel	15-20	>30	2+	Small, Medium & Large (Cockatoo)	One possible large side entry hollow - could not examine in detail	Yes	Yes
wpt022	50H	529360	6370330	S	12.98	Wandoo	10-15	>30	1	Small	Possible small hollow	No	Yes
EW225	50H	529428	6370329	S	13.66	Wandoo	15-20	>30	2+	Small	Possible small hollows	No	Yes
wpt017	50H	530078	6370526	N	14.35	Wandoo	15-20	>30	2+	Small & Medium	Possible small, medium hollows	No	Yes
EW216	50H	530841	6370386	S	15.14	Wandoo	15-20	>30	2+	Small & Medium	Examined with pole camera - small internal dimensions	No	Yes
Dead214	50H	530898	6370385	S	15.2	Dead Unknown	15-20	>30	2+	Small, Medium & Large	Examined with pole camera - too shallow/exposed - unsuitable hollow	No	No
wpt014	50H	530951	6370388	S	15.25	Wandoo	15-20	>30	1	Small	Examined with pole camera - no hollow/too shallow	No	No
Wpt007	50H	531685	6370397	N	15.99	Wandoo	15-20	>50	1	Small	Possible small hollow	No	Yes
Esp198	50H	532452	6370381	S	16.76	Red Morrel	10-15	>30	1	Large	Examined with pole camera - too shallow/exposed - unsuitable hollow	No	No
wpt006	50H	532728	6370399	N	17.04	Wandoo	15-20	>30	1	Small	Possible small hollow	No	Yes
wpt003	50H	533352	6370401	N	17.67	Wandoo	10-15	>30	1	Small	Possible small hollow	No	Yes

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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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