

Habitat Tree Assessment

Proposed Clearing Areas



Wandering-Narrogin Road

(SLK 0.00 to SLK 16.00)

Shire of Cuballing

September 2025

Version 1

On behalf of:

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SUMMARY

This report details the results of a habitat tree assessment carried out along a 16-kilometre section of the Wandering - Narrogin Road (~SLK 00.00 to ~SLK 16.00) (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 phascogales).

The Shire is in the process of 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 - 22 years' experience) on the 3 and 6 September 2025.

The assessment has involved the identification of all suitable tree species within the survey area previously identified by the Shire (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.

Of the 10 potential hollow bearing trees identified nine (9) 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 possible hollows unlikely to accommodate a black cockatoo.

One tree (wpt 002 - SLK 4.80) appeared to have hollows large enough for black cockatoos, though no evidence of use was observed at the time of the survey.

All of the identified hollow bearing trees appeared to have hollows or possible hollows of a size that could be used by red-tailed phascogales. However, except for one tree (wpt008 – SLK 15.47), it is considered unlikely that any are used by this species as the habitat surrounding the trees appears to be unsuitable for the phascogales to persist (e.g. totally cleared or only very sparsely vegetated - degraded and fragmented).

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

While the probability of the trees in question being used by cockatoos or phascogales is considered to be low it is recommended that, subject to clearing approval being obtained from DWER, that the trees in question be re-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 16-kilometre section of the Wandering - Narrogin Road (~SLK 00.00 to ~SLK 16.00) (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 Carnaby's cockatoos and other fauna (e.g. red-tailed phascogales).

The Shire is in the process of 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.

Prior to this survey being undertaken the Shire have identified various trees & large shrubs within the proposed clearing footprint all of which have been marked for easy identification prior to and during clearing operations.

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 application area.

Specifications

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

- 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 (*Zanda latirostris*), and
- 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*).
- The survey must also identify any evidence of use of any recorded hollows by Carnaby's cockatoos or red-tailed phascogales.

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 - 22 years' experience) on the 3 and 6 September 2025.

The assessment has involved the identification of all suitable tree species within the survey area previously identified by the Shire (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.

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 noted. Trees observed to contain possible hollows (of any size/type) were marked with "H" using spray paint.

Hollows or potential hollows were 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 (not assessed/recorded).
- 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 also available for use if required.

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 most hollows were impossible to examine internally.

5. RESULTS

A total of 10 “habitat trees” were 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.

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	Potential Cockatoo Hollow	Potential Phascogale Hollow	Comments
3.98	West	Wandoo	2+	Small & Medium	No	Yes but unsuitable habitat for phascogales.	Two Trees - Several possible small/medium sized hollows. No sign of use.
4.80	West	Dead Unknown	2+	Small, Medium & Large (Cockatoo)	Yes	Yes but unsuitable habitat for phascogales.	Several possible small/medium/large sized hollows. No sign of use.
5.31	West	Wandoo	2+	Small & Medium	No	Yes but unsuitable habitat for phascogales.	Two Trees - Several possible small/medium sized hollows. No sign of use.
5.38	West	Dead Unknown	2+	Small & Medium	No	Yes but unsuitable habitat for phascogales.	Several possible small/medium sized hollows. No sign of use.
8.26	West	Dead Unknown	2+	Small & Medium	No	Yes but unsuitable habitat for phascogales.	Several possible small/medium sized hollows. No sign of use.
9.05	West	Wandoo	2+	Small & Medium	No	Yes but unsuitable habitat for phascogales.	Several possible small/medium sized hollows. No sign of use.
9.27	West	Wandoo	2+	Small & Medium	No	Yes but unsuitable habitat for phascogales.	Several possible small/medium sized hollows. No sign of use.
15.47	East	Wandoo	2+	Small & Medium	No	Yes	Several possible small/medium sized hollows. No sign of use.

Note: Wandoo = Wandoo or Powderbark Wandoo

Of the 10 potential hollow bearing trees identified nine (9) 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 possible hollows unlikely to accommodate a black cockatoo.

One tree (wpt 002 - SLK 4.80) appeared to have hollows large enough for black cockatoos, though no evidence of use was observed at the time of the survey.

All of the identified hollow bearing trees appeared to have hollows or possible hollows of a size that could be used by red-tailed phascogales. However, except for one tree (wpt008 – SLK 15.47), it is considered unlikely that any are used by this species as the habitat surrounding the trees appears to be unsuitable for the phascogales to persist (e.g. totally cleared or only very sparsely vegetated - degraded and fragmented).

The single tree assessed as containing hollows or possible hollows potentially suitable for red-tailed phascogales is located within the section of the survey area that passes through Dryandra National Park. Vegetation surrounding the tree appears suitable for red-tailed phascogales and therefore there is some potential that it may be used as a daytime refuge by this species. No evidence of phascogales using any of the hollows was found though this was based on external examination of hollows with binoculars only, as hollows could not be examined internally.

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

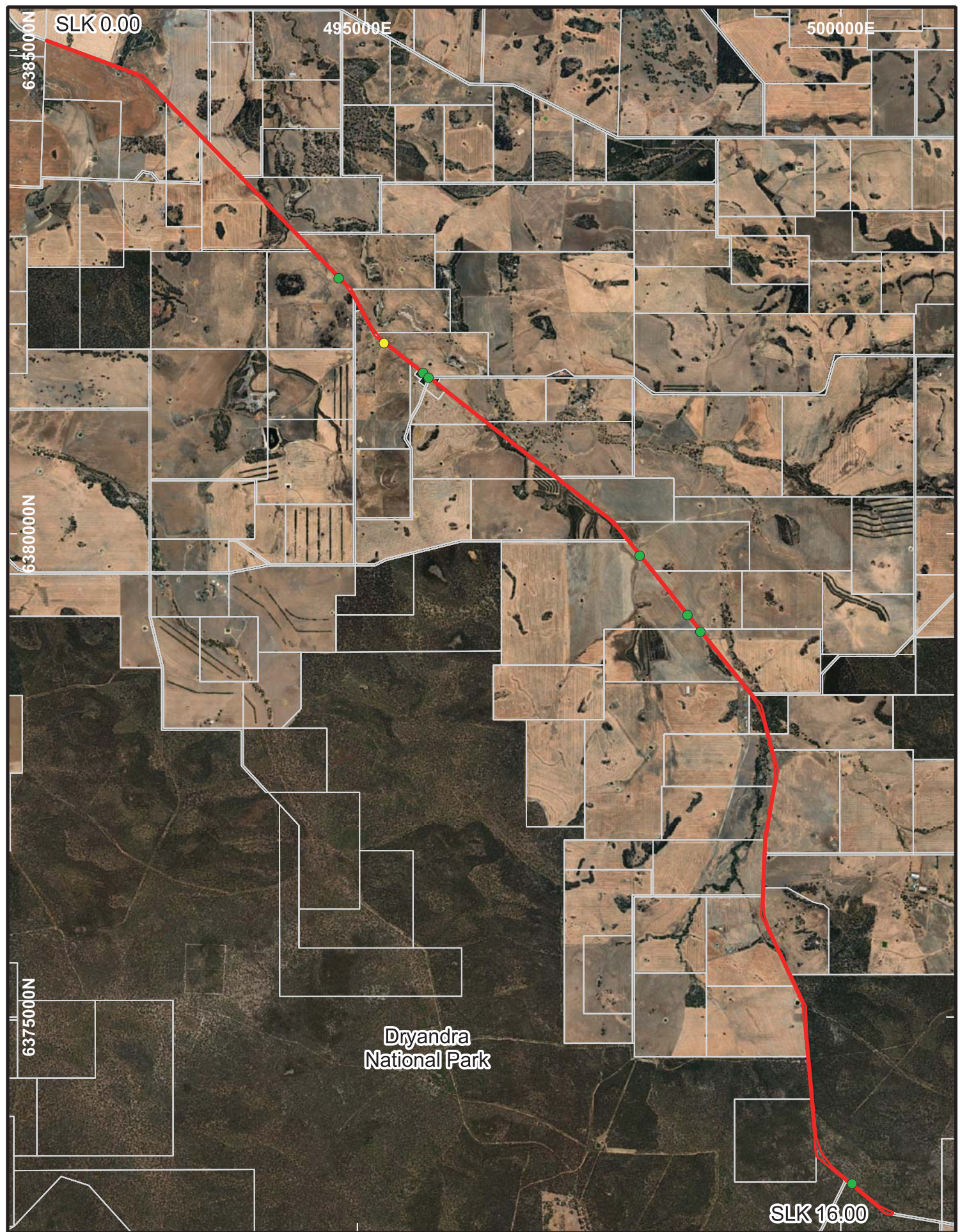
6. CONCLUSION

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 red-tailed phascogales.

The assessment identified a number of trees with one or more hollows a small number of which are 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.

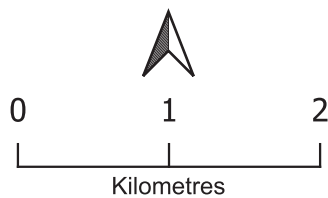
While the probability of the trees in question being used by cockatoos or phascogales is considered to be low it is recommended that, subject to clearing approval being obtained from DWER, that the trees in question be re-examined immediately prior to clearing taking place so that appropriate management measures can be employed in the event animals are encountered.

FIGURES



Legend

- Survey Area
- One or more visible hollows
None suitable for black cockatoos
- One or more visible hollows
possibly suitable for black cockatoos



Drawn: G Harewood
Date: Sept 2025
Scale: 1:2,000

Coordinate System: GDA 2020/MGA Z50

Wandering-Narrogin Road
(SLK 0.00 to SLK 16.00)
Shire of Cuballing

Habitat Trees

Figure 1

APPENDIX A

HABITAT TREE DETAILS

Habitat Trees = Hollow bearing trees

Datum - GDA2020

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

Waypoint Number	Side of Road	SLK	Datum	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Hollow Size	Comments	Potential Cockatoo Nest Hollow	Potential Phascogale Hollow
wpt001	W	3.98	GDA2020	50H	494805	6382643	Wandoo	15-20	>50	2+	Small & Medium	Two Trees - Several possible small/medium sized hollows. No sign of use.	No	No
wpt002	W	4.8	GDA2020	50H	495274	6381971	Dead Unknown	15-20	>50	2+	Small, Medium & Large (Cockatoo)	Several possible small/medium/large sized hollows. No sign of use.	Yes	No
wpt003	W	5.31	GDA2020	50H	495678	6381662	Wandoo	10-15	>50	2+	Small & Medium	Two Trees - Several possible small/medium sized hollows. No sign of use.	No	No
wpt004	W	5.38	GDA2020	50H	495735	6381613	Dead Unknown	15-20	>50	2+	Small & Medium	Several possible small/medium sized hollows. No sign of use.	No	No
wpt005	W	8.26	GDA2020	50H	497919	6379772	Dead Unknown	10-15	>30	2+	Small & Medium	Several possible small/medium sized hollows. No sign of use.	No	No
wpt006	W	9.05	GDA2020	50H	498413	6379158	Wandoo	15-20	>50	2+	Small & Medium	Several possible small/medium sized hollows. No sign of use.	No	No
wpt007	W	9.27	GDA2020	50H	498547	6378985	Wandoo	10-15	>50	2+	Small & Medium	Several possible small/medium sized hollows. No sign of use.	No	No
wpt008	E	15.47	GDA2020	50H	500116	6373276	Wandoo	10-15	>50	2+	Small & Medium	Several possible small/medium sized hollows. No sign of use.	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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