

Habitat Assessment of Proposed Clearing Areas



Bowellling-Duranillin Road (SLK 30.09 to SLK 36.10)

Shire of West Arthur

November 2021

Version 1

On behalf of:

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SUMMARY

This report details the results of a habitat assessment carried out along a section of the Bowelling-Duranillin Road between SLK 30.09 to SLK 36.10 (subject site), in the Shire of West Arthur (the Shire) to satisfy the Department of Water and Environmental Regulation (DWER) requested and anticipated requirements for a black cockatoo and phascogale habitat tree survey for the area proposed to be cleared.

An inspection of the permit area was carried out by Greg Harewood (Zoologist - 18 years' experience) on the 15 October 2021.

No trees were recorded within the defined survey area as having hollows suitable for black cockatoos.

The survey identified three (3) "habitat trees" that appeared to contain possible small/medium sized hollows potentially suitable for phascogales. It was not possible to confirm if any of the hollows present were actually suitable for this purpose or if they were occupied at the time of the survey. It is also uncertain if any of these particular trees will require removal for the proposed road works to proceed as they are located on/near the proposed works footprint boundary.

Despite the fact that it is considered unlikely that the hollows are utilised by phascogales, it is recommended that if possible, some or all of these trees be retained. If one or more of the trees do require removal it is recommended that a fauna spotter be engaged prior to and during clearing so as to minimise the risk of injury or death to any fauna that maybe present.

This report should be forwarded to DWER for their review.

1. INTRODUCTION

This report details the results of a habitat assessment carried out along a section of the Bowelling-Duranillin Road between SLK 30.09 to SLK 36.10 (subject site), in the Shire of West Arthur (the Shire).

The Shire has applied for a permit to clear vegetation within some sections of the subject site (CPS 9162/1 - SLK 31.09 to SLK 33.69) with other sections (SLK 33.69 to SLK 36.10) to be applied for in the future.

Upon review of the original application the Department of Water and Environmental Regulation (DWER) have advised the Shire that in order to determine the impacts to conservation significant fauna, a black cockatoo habitat tree survey and phascogale habitat assessment is required for the area proposed to be cleared.

The habitat assessment detailed in this report seeks to satisfy this requirement for both the existing clearing permit application and any future amendments/application within the subject site (i.e. in total, the area between SLK 30.09 and SLK 36.10).

2. SCOPE OF WORKS

The scope of works is based on specifications provided in DWER's request for additional information (DWER 2021) as they relate to fauna which states:

Information requirements

A black cockatoo habitat tree assessment and phascogale habitat assessment (for both red-tailed phascogale and south-western brush-tailed phascogale) 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 30 centimetres or greater that contain a hollow(s) that may be suitable for breeding by Carnaby's cockatoo, Baudin's cockatoo, and/or forest red-tailed black cockatoo. In addition, an assessment of the application area for red-tailed phascogale and south-western brush-tailed phascogale (phascogale) habitat is required.

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 and/or phascogales; and
- the methodology for determining the evidence of use of each hollow and

- a description/photo of the evidence.

Any evidence of foraging by Carnaby's cockatoo, Baudin's cockatoo, and/or forest red-tailed black cockatoo observed during the survey should also be documented.

NOTE: DWER considers a "*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

Based on their clearing requirements, the Shire defined the survey area as being about 3.5 metres from the edge of the existing bitumised road edge along its northern boundary, from SLK 30.09 to SLK 36,10. No clearing will be undertaken along the southern boundary of the road and so trees within this area were not included in the assessment.

An inspection of the defined survey area within the subject site was carried out by Greg Harewood (Zoologist - 18 years' experience) on the 15 October 2021.

All trees (of any species) in the defined survey area were inspected for hollows which may be suitable for use as black cockatoo breeding trees or as phascogale habitat trees. The location of each habitat tree identified was recorded with a GPS and details on tree species, number and size of hollows noted.

For the purposes of this assessment a tree containing a potential cockatoo nest hollow has been defined as:

Generally, any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) or possible hollows considered potentially suitable for occupation by a black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 10cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk were recorded as a "potential black cockatoo nest hollow".

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). Trees with possible nest hollows were also be scratched and raked with a large stick/pole in attempt to flush any sitting birds from hollows and calls of chicks will be listened for.

Any hollow or potential hollow with an entrance greater than about three centimetres was considered as possibly suitable for a phascogale to use for daytime refuge (i.e. "phascogale habitat"). It is however generally very difficult to identify if a hollow is in use by phascogales as little if any external evidence of use will exist.

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

Trees observed to contain potentially suitable hollows were marked with “H” using spray paint to facilitate easier identification in the future.

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 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 area surveyed was found to contain small patches of open woodland mostly comprised of wandoo (*Eucalyptus wandoo*) with jarrah (*Eucalyptus marginata*) occurring in varying densities over a generally a sparse grassland or bare gravel. Other areas are devoid of trees and contain sparse low shrubland, grassland or bare gravel. Most trees present within the survey area were found to be small/stunted and with no apparent hollows.

Example images of the survey area are provided below.



Plate 1: Roadside vegetation looking ESE ~SLK 30.10



Plate 2: Roadside vegetation looking SE ~SLK 33.00



Plate 3: Roadside vegetation looking SE ~SLK 35.80

A summary of the hollow bearing habitat trees observed within the area surveyed is provided in Table 1 below. The location of the trees recorded are shown in Figure 1. Additional details of each tree can be found in Appendix A.

Table 1: Summary of hollow bearing habitat trees within the area surveyed

Total Number of Hollow Bearing Habitat Trees	Number of Habitat Trees with possible hollows considered potentially suitable for black cockatoos	Number of Habitat Trees with possible hollows considered potentially suitable for phascogales
3	0	3

The survey identified three (3) “habitat trees” within the survey area that appeared to contain possible small/medium sized hollows (potentially suitable for phascogales only). It was not possible to confirm if any of the hollows present were actually suitable for phascogales or if they were occupied at the time of the survey, though it is considered unlikely that they would be in use given the overall habitat quality bordering the road is generally degraded. This conclusion is supported by the fact that there are no recent records of either species of phascogale in the general vicinity, and the records that do exist are over 10 years old and very limited in number (DBCA 2021).

No trees within the defined survey area contain large hollows considered suitable or potentially suitable for black cockatoos.

It should be noted that all three of the identified habitat trees are located about 3.5 metres from the existing road edge and therefore may not need to be removed to allow for road works to proceed.

6. CONCLUSION

The assessment reported on here was undertaken to identify trees within the survey area that contain hollows suitable for use by black cockatoos and/or phascogales.

No trees were recorded within the defined survey area as having hollows suitable for black cockatoos.

The survey identified three (3) “habitat trees” that appeared to contain possible small/medium sized hollows potentially suitable for phascogales. It was not possible to confirm if any of the hollows present were actually suitable for this purpose or if they were occupied at the time of the survey. It is also uncertain if any of these particular trees will require removal for the proposed road works to proceed as they are located on/near the proposed works footprint boundary.




Despite the fact that it is considered unlikely that the hollows are utilised by phascogales, it is recommended that if possible, some or all of these trees be retained. If one or more of the trees do require removal it is recommended that a fauna spotter be engaged prior to and during clearing so as to minimise the risk of injury or death to any fauna that maybe present.

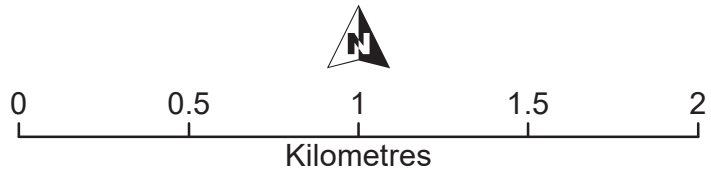
This report should be forwarded to DWER for their consideration.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

-  Survey Area
-  SLK
-  Habitat Tree



Drawn: G Harewood
Date: 20-Nov-21
Scale: 1:22,250

**Bowelling-Duranillin Road
(SLK 30.09 to SLK 36.10)
Shire of West Arthur
Aerial Photograph
&
Habitat Trees**

7. REFERENCES

Department of Biodiversity, Conservation and Attractions (DBCA) (2007 -). NatureMap: Mapping Western Australia's Biodiversity. URL: <https://naturemap.dbca.wa.gov.au/>. Accessed 10/11/2021.

Department of Water and Environmental Regulation (DWER 2021). Application to Clear Native Vegetation under the Environmental Protection Act 1986 – Request for information (CPS 9162/1). 24 May 2021

APPENDIX A

HABITAT TREE DETAILS

Habitat Trees**Datum = GDA94****Entrance Size Ranges - Small = >5cm, Medium = 5 -10cm, Large = >10cm**

Waypoint Number	Zone	mE	mN	Side of Road	~SLK	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size	Occupancy	Comments
wpt002	50H	475339	6290375	North	30.33	Wandoo	15-20	30-50	2+	Small & Medium	No Signs	Possibly suitable for phascogales but unconfirmed
wpt003	50H	475721	6290667	North	30.81	Wandoo	15-20	30-50	2+	Small & Medium	No Signs	Possibly suitable for phascogales but unconfirmed
wpt004	50H	477390	6290787	North	32.51	Wandoo	10-15	30-50	2+	Small & Medium	No Signs	Possibly suitable for phascogales but unconfirmed

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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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