

**Western Ringtail Possum Survey  
&  
Habitat Tree Assessment  
of  
Proposed Clearing Areas  
(CPS 8502/1)**



**Windy Harbour Road - Northcliffe  
(SLK 1.36 to 2.50)**

**Shire of Manjimup**

June 2020

*Version 1*

***On behalf of:***

Shire of Manjimup  
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SHIRE OF  
**MANJIMUP**  
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## SUMMARY

This report details the results of a western ringtail possum (*Pseudocheirus occidentalis*) and habitat tree assessment carried out over several sections of Winy Harbour Road, Northcliffe between SLK 1.36 to SLK 2.50, in the Shire of Manjimup (the Shire).

The Shire are seeking permission to clear up to 2.72 hectares and approximately 20 trees along the road reserve from the Department of Water and Environmental Regulation (DWER) (ref: CPS 8502/1).

An initial inspection of the area by DWER identified the presence of potential western ringtail possum habitat and black cockatoo breeding habitat and as a consequence they have requested targeted surveys be undertaken (DWER 2020). The results of these surveys are presented here.

A nocturnal WRP survey of the Permit area was carried out on the 12 May 2020. A daytime survey was carried out on the 5 June 2020. All survey work was carried out by Greg Harewood (Zoologist - 17 years' experience).

Habitat for WRPs within the Permit area superficially appears suitable for the species however no evidence (dreys, scats or individuals) was found during the day or night surveys. The survey results support the conclusion that the WRPs do not occur within the Permit area.

The permit area was found to contain six "habitat trees" (i.e. DBH >50cm). None of these trees were identified as containing hollows suitable for, or in use by black cockatoos.

Based on the results of the assessment it is concluded that clearing can be carried out without directly impacting on western ringtail possums or existing black cockatoo breeding habitat.

This report should be forwarded to DWER for their consideration.

## 1. INTRODUCTION

This report details the results of a western ringtail possum (*Pseudocheirus occidentalis*) and black cockatoo habitat tree assessment carried out over several sections of Windy Harbour Road, Northcliffe between SLK 1.36 to SLK 2.50, in the Shire of Manjimup (the Shire).

The Shire are seeking permission to clear up to 2.72 hectares and approximately 20 trees along the road reserve from the Department of Water and Environmental Regulation (DWER) (ref: CPS 8502/1) (Figure 1).

A preliminary assessment of the application and a site inspection by DWER has identified that suitable habitat for western ringtail possums (WRP) and black cockatoos are likely to occur within the application area. DWER have subsequently requested that additional information relating to the presence and extent of fauna habitat within the Permit area be obtained and forwarded for assessment. The WRP and black cockatoo habitat tree survey 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 black cockatoo *Calyptorhynchus baudinii*, Carnaby's black 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 WRPs and black cockatoos which states:

### Information Requirements

- A western ringtail possum survey (including night surveys) is required for the area proposed to be cleared.
- A black cockatoo habitat tree assessment / survey is required for the area proposed to be cleared.

### Specifications

#### Western Ringtail Possum Survey

- Survey methodology must be consistent with the Environmental Protection Authority's (EPA) Technical Guidance: Terrestrial Fauna Surveys (December 2016).

#### Black Cockatoo Habitat Tree Assessment

- 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;
  - 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) and be accompanied by a completed Metadata and Licensing Statement.

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 nocturnal WRP survey of the Permit area was carried out on the 12 May 2020. A daytime survey was carried out on the 5 June 2020. All survey work was carried out by Greg Harewood (Zoologist - 17 years' experience).

#### **3.1 WESTERN RINGTAIL POSSUM SURVEY**

A detailed western ringtail possum survey was be carried out over the Permit area. The survey included:

- Diurnal Survey  
A daytime survey was carried out to locate and record dreys, obvious tree hollows, scats and individual WRPs along with habitat characteristics. This was carried out concurrent with the black cockatoo habitat survey.

- Nocturnal Survey  
A nocturnal survey for WRPs was carried out. The nocturnal survey involved the systematic searching of potential WRP habitats the Permit area on foot using a head torch with the aim of detecting WRPs by eye shine.

### 3.2 BLACK COCKATOO HABITAT TREE ASSESSMENT

The assessment has involved the identification of all suitable trees species within the Permit area that have a diameter at breast height (DBH) of equal to or over 50cm with special attention paid to those containing hollows or apparent hollows. The DBH of each tree was estimated using a pre-made 50 cm “caliper”.

Target tree species included karri, marri and jarrah and any other *Corymbia/Eucalyptus* species of a suitable size that are present. Peppermints, banksia, sheoak and melaleuca tree species (for example) were not be assessed as they typically do not develop hollows that are used by black cockatoos.

The location of each tree identified fitting the required criteria (i.e. DBH  $\geq$ 50cm) were recorded with a GPS and details on tree species, number and size of hollows (if any) noted.

Possible hollows were placed into one of four categories, based on the size of the apparent hollow entrance, these being:

- Small =  $\sim$ <5cm diameter (i.e. entrance appears too small for a black cockatoo);
- Medium =  $\sim$ 5cm-10cm diameter (i.e. entrance appears too small for a black cockatoo);
- Large =  $\sim$ >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); or
- Large (cockatoo) =  $\sim$ >10cm diameter (entrance appears big enough to provide access to a possible hollow that maybe suitable for a black cockatoo to use for nesting).

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

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

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).

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

## **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**

### **5.1 WESTERN RINGTAIL POSSUM SURVEY**

Habitat for WRPs within the Permit area superficially appears suitable for the species however no evidence of western ringtail possums (dreys, scats or individuals) was found during the day or night surveys. The survey results support the conclusion that the WRPs do not occur within the Permit area.



## 5.2 BLACK COCKATOO HABITAT TREE ASSESSMENT

The permit area was found to contain patches of open forest/woodland mostly comprised of blackbutt (*Eucalyptus patens*), marri (*Corymbia calophylla*) and occasional karri (*Eucalyptus diversicolor*) trees over a shrubland dominated by bracken fern.

A summary of the black cockatoo “habitat trees” observed within the permit area is provided in Table 1 below. The location of the trees recorded are shown in Figure 1.

**Table 1: Summary of Habitat Trees (DBH  $\geq$ 50cm) within the Permit Area**

Total Number of Habitat Trees (i.e. DBH $\geq$ 50cm)	Number of Habitat Trees <u>without</u> hollows or apparent hollows	Number of Habitat Trees <u>with possible hollows considered unsuitable</u> for black cockatoos	Number of Habitat Trees <u>with possible hollows considered potentially suitable</u> for black cockatoos
6	4	2	0

The vast majority of the trees with the permit application area appear to be relatively young and as a consequence do not contain hollows of any size.

The permit area was found to contain six “habitat trees” (i.e. DBH  $\geq$ 50cm). None of these trees were identified as containing hollows suitable for, or in use by black cockatoos.

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

## 6. CONCLUSION

The assessment reported on here was primarily undertaken to determine if western ringtail possums were present and to identify trees within the Permit area that contain hollows suitable for use by black cockatoos for nesting purposes.

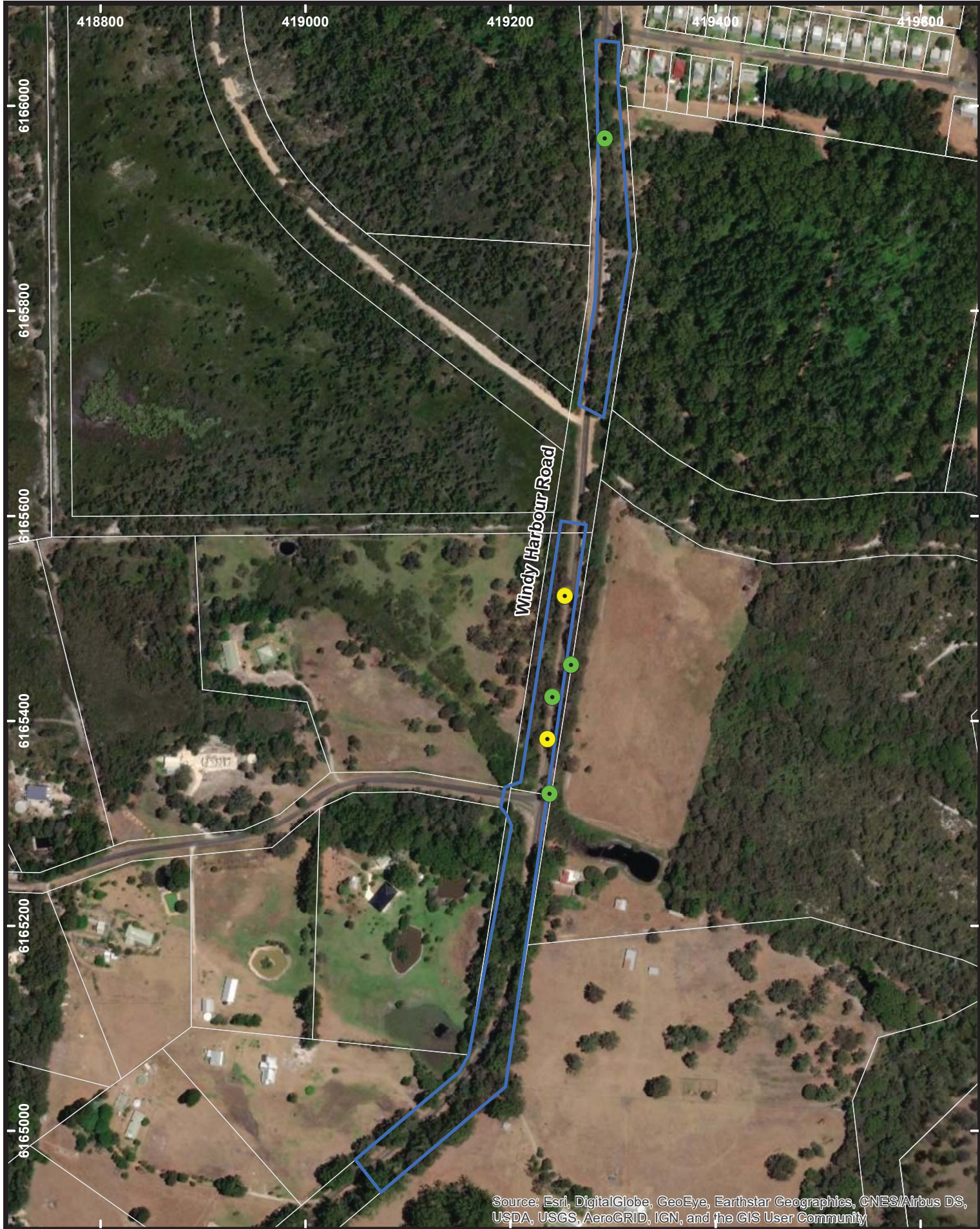
Habitat for western ringtail possums within the Permit area superficially appears suitable however no evidence (dreys, scats or individuals) was found during the day or night surveys. The survey results support the conclusion that the WRPS do not occur within the Permit area.

No trees were recorded as having hollows suitable for black cockatoos and clearing can therefore be carried out without compromising conditions of the Permit relating to this matter.

Based on the results of the assessment it is concluded that clearing can be carried out without impacting on western ringtail possums or existing black cockatoo breeding habitat.





This report should be forwarded to DWER for their review and comment prior to clearing commencing.

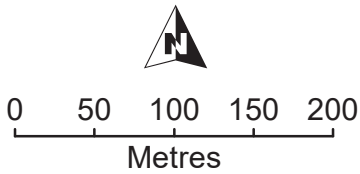





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Permit Area (8502/1)
-  Habitat Tree - no hollows observed
-  Habitat Tree - One or more hollows
-  None appear suitable for Black Cockatoos

FaunaSurvey  
 Drawn: G. Harewood  
 Date: June 2020  
 Scale: 1:4,750

CPS 8502/1  
 Windy Harbour Rd - Northcliffe  
 Shire of Manjimup

**Habitat Trees  
 (DBH >50cm)**

## 7. REFERENCES

Department of Water and Environmental Regulation (DWER 2020). Application to Clear Native Vegetation under the Environmental Protection Act 1986 – Request for information (CPS 8502/1, CPS 8578/1, CPS 8579/1, CPS 8580/1 and CPS 8586/1). 3 February 2020.

Environmental Protection Authority (EPA) and Department of Environment and Conservation (DEC) (2016). Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessments (eds B.M. Hyder, J. Dell and M.A. Cowan), Perth Western Australia.

# **APPENDIX A**

## **HABITAT TREE DETAILS**



**Habitat Trees DBH >50cm****Datum - GDA94****Entrance Size Ranges - Small = >5cm, Medium = 5 < 10cm, Large = >10cm**

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow
wpt013	50H	419238	6165329	Blackbutt	15-20	<50	0				
wpt014	50H	419236	6165382	Blackbutt	15-20	<50	2+	Small	No Signs	No Signs	No
wpt015	50H	419241	6165423	Blackbutt	20+	<50	0				
wpt016	50H	419259	6165455	Dead Blackbutt	15-20	<50	0				
wpt017	50H	419253	6165522	Blackbutt	15-20	<50	2+	Small & Medium	No Signs	No Signs	No
wpt018	50H	419292	6165968	Karri	20+	<50	0				

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