

Western Ringtail Possum Survey & Habitat Tree Assessment of Proposed Clearing Areas (CPS 8578/1)



Wheatley Coast Road (SLK 0.00 to 3.16 and SLK 11.88 to 12.35)

Shire of Manjimup

July 2020

Version 1

On behalf of:

Shire of Manjimup
C/- Strategen – JBS&G
50 Subiaco Square Road
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SHIRE OF
MANJIMUP
Manjimup • Northcliffe • Pemberton • Walpole

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SUMMARY

This report details the results of a western ringtail possum (*Pseudocheirus occidentalis*) and black cockatoo habitat tree assessment carried out over several sections of the Wheatley Coast Road between SLK 0.00 to 3.16 and SLK 11.88 to 12.35, in the Shire of Manjimup (the Shire).

The Shire are seeking permission to clear up to 1.824 hectares of native vegetation containing about 297 native trees along the road reserve from the Department of Water and Environmental Regulation (DWER) (ref: CPS 8578/1).

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

Habitat for WRPs within some sections of 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 46 "habitat trees" (i.e. DBH \geq 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 the Wheatley Coast Road between SLK 0.00 to 3.16 and SLK 11.88 to 12.35, in the Shire of Manjimup (the Shire).

The Shire are seeking permission to clear up to 1.824 hectares of native vegetation conating about 297 native trees along the road reserve from the Department of Water and Environmental Regulation (DWER) (ref: CPS 8578/1) (Figures 1 and 2).

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

3.1 Western Ringtail Possum Survey

A detailed western ringtail possum survey was 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 within 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 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

No evidence of western ringtail possums utilising the Permit area was found during the day or night surveys. Habitat for the species within the Permit area appears largely unsuitable for the species given the lack of a coherent midstorey vegetation though some small areas appeared superficially suitable.

The survey results support the conclusion that the WRPs do not occur within the Permit area or only occur rarely and they are unlikely to therefore be encountered during clearing operations.

5.2 BLACK COCKATOO HABITAT TREE ASSESSMENT

The northern Permit area (Figure 1) was found to mainly contain patches of open forest/woodland mostly comprised of marri (*Corymbia calophylla*) and jarrah (*Eucalyptus marginata*) trees over open shrubland. In the lower section of the Permit area the existing road crosses a small creek either side of which blackbutt (*Eucalyptus patens*) becomes the dominant tree species with occasional peppermint (*Agonis flexuosa*), sheoak (*Allocasuarina* spp.) and *Banksia* spp.

The southern Permit area (Figure 2) is located within the town of Quinninup. In this area the vegetation is comprised of a combination of karri (*Eucalyptus diversicolor*), marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) trees and some planted non-endemic/exotic trees and shrubs over low open shrubland/bare ground.

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 and 2.

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

Area	Total Number of Habitat Trees (i.e. DBH \geq 50cm)	Number of Habitat Trees <u>without hollows</u> or <u>apparent hollows</u>	Number of Habitat Trees with <u>possible hollows considered unsuitable</u> for black cockatoos	Number of Habitat Trees with <u>possible hollows considered potentially suitable</u> for black cockatoos
A (north)	32	31	1	0
B (south)	14	14	0	0
Total	46	45	1	0

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

The Permit area was found to contain 46 “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.

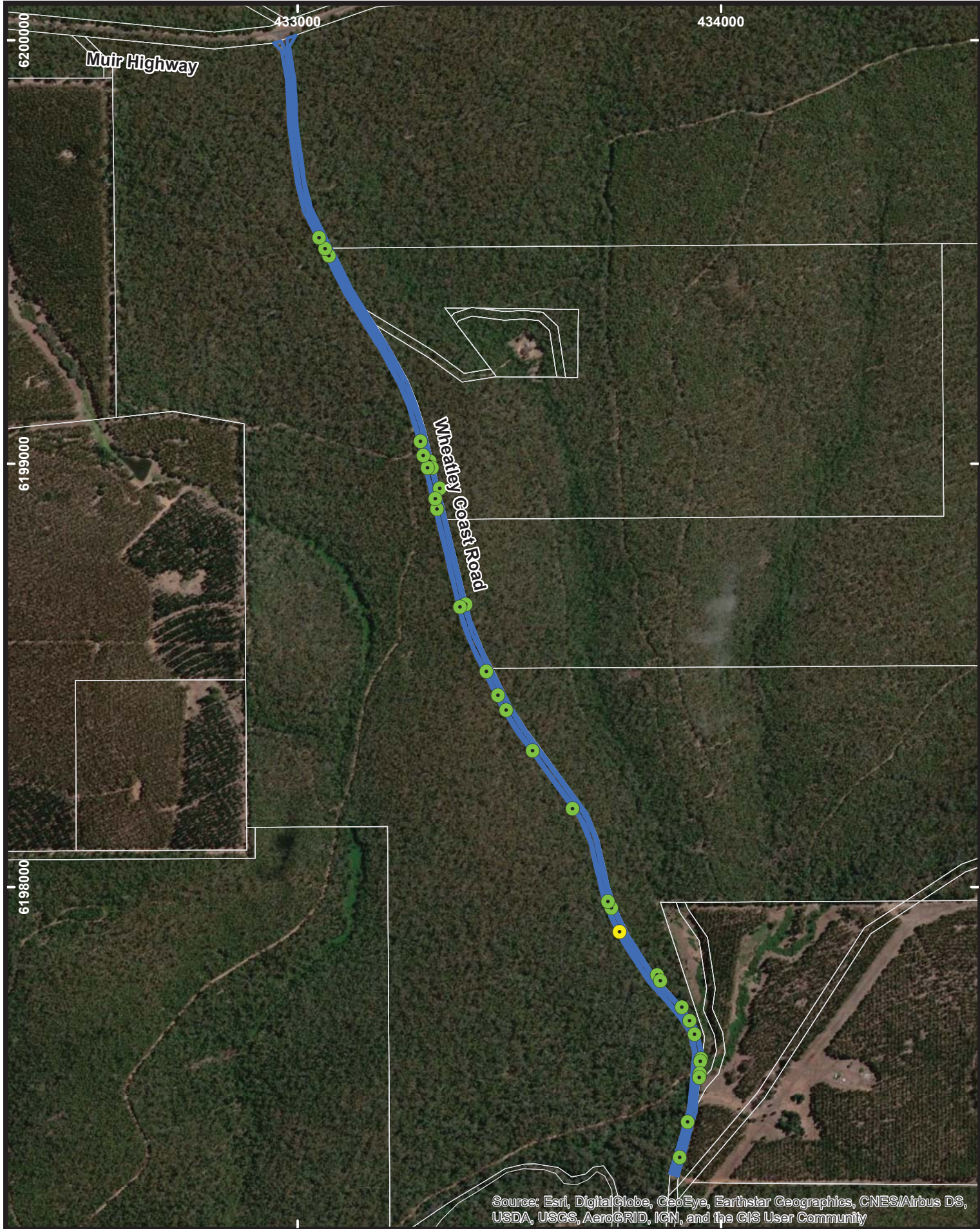
Habitat for western ringtail possums within the Permit area superficially appears suitable in some area however no evidence (dreys, scats or individuals) was found during the day or

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.

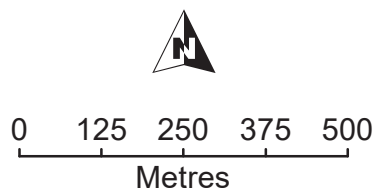
Based on the results of the assessment it is concluded that clearing can be carried out without impacting on western ringtail possums or existing black cockatoo breeding habitat.

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



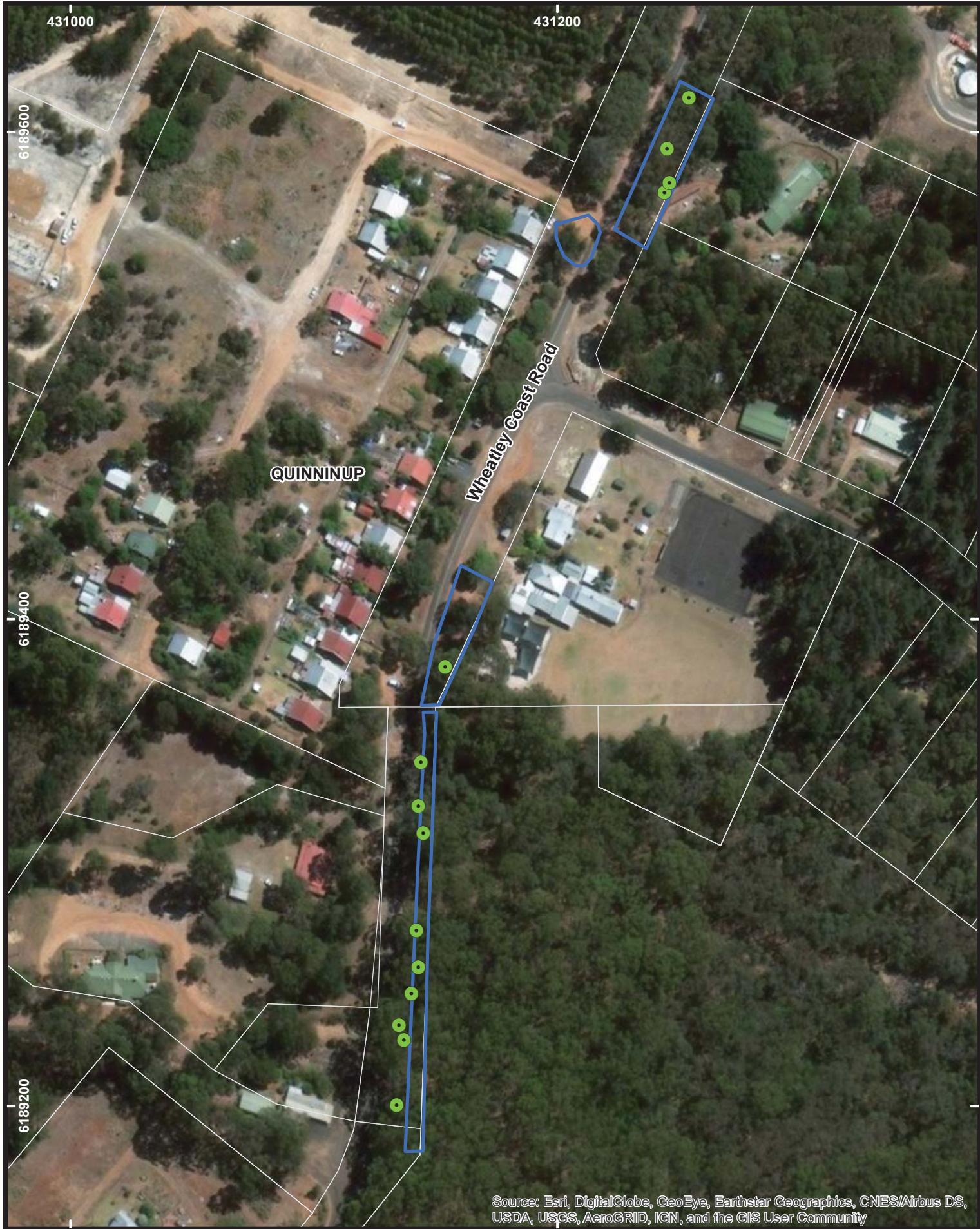
Legend

-  Permit Area (8578/1a)
-  Habitat Tree - no hollows observed
-  Habitat Tree - One or more hollows
-  None appear suitable for Black Cockatoos






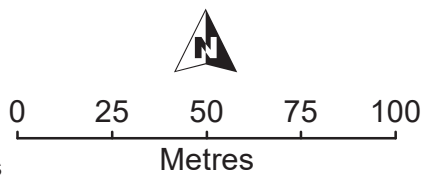
Drawn: G. Harewood
Date: July 2020
Scale: 1:11,500

CPS 8578/1-a
Wheatley Coast Road
Shire of Manjimup
**Habitat Trees
(DBH >50cm)**



Legend

-  Permit Area (8578/1b)
-  Habitat Tree - no hollows observed
-  Habitat Tree - One or more hollows
- None appear suitable for Black Cockatoos



Drawn: G. Harewood
Date: July 2020
Scale: 1:2,000

CPS 8578/1-b
Wheatley Coast Road
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

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
awpt001	50H	433313	6199006	Jarrah	15-20	<50	0				
awpt002	50H	433318	6198989	Jarrah	15-20	<50	0				
awpt003	50H	433337	6198941	Jarrah	15-20	<50	0				
awpt004	50H	433398	6198667	Marri	15-20	<50	0				
awpt005	50H	433850	6197792	Blackbutt	+20	<50	0				
awpt006	50H	433858	6197778	Jarrah	15-20	<50	0				
awpt007	50H	433908	6197715	Blackbutt	15-20	<50	0				
awpt008	50H	433927	6197683	Blackbutt	15-20	<50	0				
awpt009	50H	433938	6197651	Blackbutt	15-20	<50	0				
awpt010	50H	433954	6197595	Blackbutt	15-20	<50	0				
awpt011	50H	433952	6197588	Blackbutt	+20	<50	0				
awpt012	50H	433951	6197560	Blackbutt	+20	<50	0				
awpt013	50H	433949	6197550	Blackbutt	+20	<50	0				
awpt014	50H	433903	6197361	Blackbutt	15-20	<50	0				
awpt015	50H	433922	6197445	Blackbutt	15-20	<50	0				
awpt016	50H	433761	6197895	Marri	+20	<50	2+	Small	No Signs	No Signs	No
awpt017	50H	433742	6197950	Jarrah	15-20	<50	0				
awpt018	50H	433734	6197965	Jarrah	+20	<50	0				
awpt019	50H	433650	6198185	Marri	15-20	<50	0				
awpt020	50H	433556	6198322	Jarrah	20+	<50	0				
awpt021	50H	433493	6198417	Marri	15-20	<50	0				
awpt022	50H	433474	6198452	Marri	15-20	<50	0				
awpt023	50H	433447	6198508	Marri	15-20	<50	0				
awpt024	50H	433384	6198661	Marri	15-20	<50	0				
awpt025	50H	433330	6198893	Dead Marri	+20	<50	0				

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
awpt026	50H	433326	6198916	Jarrah	15-20	<50	0				
awpt027	50H	433307	6198989	Marri	+20	<50	0				
awpt028	50H	433298	6199018	Jarrah	15-20	<50	0				
awpt029	50H	433291	6199052	Jarrah	+20	<50	0				
awpt030	50H	433075	6199490	Marri	+20	<50	0				
awpt031	50H	433066	6199507	Jarrah	+20	<50	0				
awpt032	50H	433051	6199532	Jarrah	+20	<50	0				
wpt006	50H	431244	6189575	Marri	+20	<50	0				
wpt007	50H	431246	6189579	Jarrah	+20	<50	0				
wpt008	50H	431245	6189593	Jarrah	+20	<50	0				
wpt009	50H	431254	6189614	Jarrah	15-20	<50	0				
wpt016	50H	431134	6189200	Karri	15-20	<50	0				
wpt017	50H	431137	6189227	Karri	+20	<50	0				
wpt018	50H	431135	6189233	Karri	+20	<50	0				
wpt019	50H	431140	6189246	Marri	15-20	<50	0				
wpt020	50H	431143	6189257	Karri	+20	<50	0				
wpt021	50H	431142	6189272	Karri	+20	<50	0				
wpt022	50H	431145	6189312	Marri	+20	<50	0				
wpt023	50H	431143	6189323	Marri	+20	<50	0				
wpt024	50H	431144	6189341	Marri	+20	<50	0				
wpt025	50H	431154	6189380	Marri	+20	<50	0				

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