

Smithson Environmental



Black Cockatoo Impact Assessment
Yanmah Road, Manjimup

Mike Smith
Smith Family Farms, 296 Yanmah Road, Manjimup

14th October 2020

Prepared by:

Ann Smithson, BSc (Hons), MRes, PhD, MEIANZ

Executive Summary

- Mr Mick Smith, of Smith Family Farms, 296 Yanmah Road, Manjimup, commissioned Smithson Environmental to conduct a targeted Black Cockatoo Impact Assessment on an approximately 4.01 hectare block of remnant forest within Lot 810, Yanmah Road in Ringbark, Manjimup. The survey targeted Carnaby's, Baudin's and Forest Red Tail Black Cockatoos (*Calyptorhynchus latirostris*, *C. baudinii* and *C. banksii naso* respectively). A Level 1 Flora Survey and Level 1 Fauna Survey were not commissioned.
- According to EPBC Act referral guidelines for three threatened species of Black Cockatoos (Commonwealth of Australia 2012), a high risk of significant impact on Black Cockatoos was determined. Specifically, the forest remnant contains potential Black Cockatoo breeding habitat, comprises more than 1 hectare of demonstrably high quality foraging habitat, and may contain a Forest Red Tail Black Cockatoo (*C. banksii naso*) night roost. Further survey may quantify further the potential for night roosting potentially observed on one survey night.
- Due to the high risk of significant impacts on Black Cockatoos, Federal referral under the EPBC Act is recommended.
- Since the forest remnant is demonstrably habitat that contains foraging Forest Red Tail Black Cockatoos (*C. banksii naso*), which are listed as Threatened within Western Australia, clearance may be at variance with Principle (b) of the Western Australian native vegetation clearance guidelines.
- The forest remnant lies within the known range of, and has habitat that may be suitable for, Western Ringtail Possums. Western Ringtail Possums are listed as Critically Endangered under both State and Federal Legislation. It is strongly recommended that the remnant receives appropriate targeted fauna survey.

1. Introduction

Mr Mick Smith, of Smith Family Farms, Manjimup, commissioned Smithson Environmental to conduct a targeted Black Cockatoo Impact Assessment on an approximately 4.01 hectare block of remnant forest within Lot 810, Yanmah Road in Ringbark, Manjimup. Mr Garry Smith, as main proponent wishes to clear the remnant forest within Lot 810, Yanmah Road in Ringbark, Manjimup for agricultural purposes, and on 3rd July 2020 had applied for Area Permit via the Department of Water and Environmental Regulation Western Australia (DWER). DWER stated (email to Mr Smith of 17th September 2020) that a number of protected fauna species are likely to be found within or in proximity to the application area, including Carnaby's, Baudin's and Forest Red Tail Black Cockatoos (*Calyptorhynchus latirostris*, *C. baudinii* and *C. banksii naso* respectively). Mr Mick Smith therefore commissioned a targeted Black Cockatoo Impact Assessment from Smithson Environmental, to address the potential for clearance of the 4.01 hectare remnant forest block at Yanmah Road to impact specifically Black Cockatoos. This assessment follows EPBC Act referral guidelines for three threatened species of Black Cockatoos (Commonwealth of Australia 2012) and additionally addresses Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) and associated guidelines where relevant to Black Cockatoos. A Level 1 Flora Survey and Level 1 Fauna Survey were not commissioned by the proponent from Smithson Environmental at this point, but casual observations on other flora and fauna were noted at site and are included here when these may be relevant to any environmental legislation or impact assessment for clearance of the vegetation.

2. Desktop Assessment

All three species of Western Australian Black Cockatoos are included within the State's Threatened and Priority Fauna list and also listed under the Federal EPBC Act (Department of Biodiversity, Conservation and Attractions 2019). Conservation rankings for these three species are given in Table 1.

Table 1. Conservation rankings for Black Cockatoos in Western Australia in State and Federal Listings.

Scientific Name	Common Name	Status in Western Australia	Status under Federal EPBC Act
<i>Calyptorhynchus banksii naso</i>	Forest Red Tail Black Cockatoo	Vulnerable	Vulnerable
<i>Calyptorhynchus baudinii</i>	Baudin's Cockatoo	Endangered	Endangered
<i>Calyptorhynchus latirostris</i>	Carnaby's Cockatoo	Endangered	Endangered

A desktop assessment determined that the forest remnant at Yanmah Road, Manjimup lies within the mapped ranges for all three Western Australian Black Cockatoo species (Commonwealth of Australia 2012). Further, the forest remnant occurs within the known breeding range of Baudin's Cockatoo *C.*

baudinii, the and the predicted breeding range of Carnaby's Cockatoo *C. latirostris*.

Data from the Great Cocky Count (A. Peck, pers. comm.) indicated that two Black Cockatoo night roosts were known within 12km of the location of the centre of the focal forest remnant (MNJMNJR002 and MNJMNJR003). Their locations relative to the forest remnant is shown in Figure 1. These night roosts were located towards the centre of Manjimup and were both White Tail Black Cockatoo roosts (*C. latirostris* + *C. baudinii*). The Great Cocky Count is held during April, which is outside the breeding season for White Tail Black Cockatoos (*C. latirostris* + *C. baudinii*), and may be outside the breeding season for Forest Red Tail Black Cockatoos (FRTBC, *C. banksii naso*) depending on rainfall. Site assessment was planned to occur during early October 2020, which is within the known breeding seasons for all Western Australian Black Cockatoos (Commonwealth of Australia 2012).

The literature did not indicate that any known breeding trees for Black Cockatoos lies within or near to the forest remnant (Birdlife Australia 2018).

Aerial photography of the remnant (Figures 1 and 2) suggested that the area likely comprised trees that might be suitable Black Cockatoo habitat. Therefore the assessment proceeded to the on-site assessment phase.

3. Site Assessment

3.1. Introduction and Methods

A Black Cockatoo impact assessment was carried out at Yanmah Road from 5th to 7th October 2020 inclusive. The wider location of the remnant forest block is shown in Figure 1, alongside known Great Cocky Count Black Cockatoo night roost locations (MNJMNJR002 and MNJMNJR003).

All trees over approximately 15cm diameter at breast height (DBH) were identified, located (using standard GPS at the northern side adjacent to the trunk at DBH), and sized. Each tree was sized as diameter at breast height (approximately 1.4m above ground as per AS4970-2007) using callipers (Haglof, Sweden; note these measured to 80cm DBH in one span and diameters beyond this are approximate). Each tree was assessed for Black Cockatoo feeding activity by searching for species-specific beak marks on fruits such as from Marri (*Corymbia calophylla*). Each sized tree was assessed for significant fauna habitat features, in particular the availability of nesting holes for Black Cockatoos and other fauna habitat features such as tree hollows, in addition to feeding signs. Trees greater than or equal to 50cm DBH (Marri, Jarrah, Blackbutt) or greater than or equal to 30cm DBH (Wandoo, Powderbark) were considered to exceed the EPBC Act Black Cockatoo referral guidelines size limits for suitability for producing breeding holes (Commonwealth of Australia, 2012) and were recorded as such. Any signs of fauna use were recorded during visits, and searches and incidental observations on both flora and fauna as appropriate to Clearing Regulations were made. Observations on Black Cockatoos visiting the site were made throughout the survey visit. Data from the survey was recorded directly onto an iPad App (Numbers for iPad). The potential for the forest remnant to hold a Black Cockatoo night roost was assessed by observing Black Cockatoo behaviour in the area prior to dusk and at dawn on nights of 5th-6th and 6th-7th October 2020.

3.2. Results

3.2.1. Flora, Vegetation and Site History

The forest remnant was a very densely forested block with trees comprising a mixture of Marri (*Corymbia calophylla*, red-flower form according to the owner Mike Smith), Jarrah (*Eucalyptus marginata*) and Blackbutt (*Eucalyptus patens*). The block sloped to the south-west, and was approximately 100m north-east of a wetland lake which feeds north-west into a tributary of the Donnelly River. The area surrounding the remnant was predominantly cropped agricultural land (Figure 1), however multiple remnant areas of forest habitat occur surrounding the site (Figure 1). It was noted that the forested block 1km to north of the focal remnant forms continuous forested canopy cover with North Donnelly State Forest, South East Nannup State Forest, and multiple connected National Parks and State Forests to the west and north of Manjimup.

Generally, trees in the forest remnant were very dense and tall (estimated 30m or more) with minimal lower branching resulting in a high canopy. The owner reported that the site had been logged in the 1930's, and had received minor targeted logging since. Understory flora was particularly dense, especially in the central eastern area. There was particularly abundant growth, in places to over 2m height, of the introduced *Genista monospeulana* throughout the understory of the remnant, densest in the central eastern area. *Genista monospeulana* was interspersed with native climbers *Kennedia prostrata* and *Hardenbergia comptoniana* which rendered survey of some areas of this forest particularly difficult, with access significantly hampered (Figure 2 – marked as dense understory). It is possible therefore that where understory was particularly dense that trees may not all have been completely identified or located during the detailed tree survey. While the dominant understory was *G. monospeulana*, some additional native understory flora was noted as present (eg. *Xanthorrhoea preisii*, *Macrozamia riedlei*, *Patersonia umbrosa*, *Hakea amplexicaulis*).

3.2.2. Tree Survey

Total time spent surveying the trees in the forest remnant was three days in total. The forest remnant was assessed by transect walks on an approximately north-south axis. As noted in section 3.2.1, dense understory inhibited effective survey in some areas. This could have resulted in some large trees being missed, and in total 133 trees of DBH estimated as less than 50cm were not measured during transects (Figure 2).

Table 2 and Figure 2 show that during survey, 1094 trees were located in the forest remnant, of which 961 were identified and measured, and of these 179 (19%) were 50cm DBH or more. The majority of trees overall and trees over 50cm DBH were Marri *C. calophylla*. 51 dead trees were recorded, though few were large (50cm DBH or more), and were not noted to have Black Cockatoo sized nest holes. No trees in the survey were visibly noted to have holes suitable for nesting, although survey may have been constrained by the high canopy. At least 9 large trees were noted to have hollow trunks at the base, although these were not suitable for nesting by Black Cockatoos. Trees 50cm DBH or more were located across the site surveyed and were not located in any particular cluster or area (Figure2).

Abundant scattered fruits of Marri (*C. calophylla*) were noted at site, especially at the edge of the site adjacent surrounding farmland, and many were freshly dropped (see Figure 3). Beak marks suggested that almost all fruits had been foraged on by Forest Red Tail Black Cockatoos (FRTBC, *C. banksii naso*), with only one fruit potentially having White Tail Black Cockatoo beak marks. 40 Marri trees were specifically recorded as having evidence of FRTBC feeding on fruits found under the surveyed tree, of which 27 were large trees (50cm DBH or more). FRTBC foraging was likely underestimated from foraged fruit abundance, as the dense vegetation in the centre and east of the remnant likely prevented fruit being located on the ground here.

Table 2. Tree species surveyed for Black Cockatoo habitat suitability according to size at the forest remnant at Yanmah Road, Manjimup.

Tree Species	Large (≥ 50cm DBH)	Small (c15 -< 50cm DBH)	Not Determined	Grand Total
Blackbutt (<i>Eucalyptus patens</i>)	26	168		194
Dead	2	49		51
Jarrah (<i>Eucalyptus marginata</i>)	51	291		342
Marri (<i>Corymbia calophylla</i>)	100	274		374
Not Determined			133	133
Grand Total	179	782	133	1094

3.2.3. Black Cockatoo Observations and Night Roosting

Numerous sightings of FRTBC were made inside the forest remnant during the survey. Indeed, FRTBC flocks were present and feeding on trees somewhere within the remnant for the majority of the survey period. Flocks of FRTBC recorded in the remnant were of 3-7 birds, which are typical for FRTBC while foraging and likely represent family groups (Department of Biodiversity, Conservation and Attractions 2019). At least one Marri tree was surveyed while FRTBC were foraging in the tree above. Two flocks of White Tail Black Cockatoos, of approximately 7 birds each, were recorded, these flew past the south side of the remnant and were not observed to land nor observed foraging within the remnant. Calls suggested these were most likely Baudin's Cockatoo *C. baudinii*.

On the evening of 5th October 2020, a flock of 5 FRTBC was heard foraging within the remnant close to dusk and was not heard departing. At dawn 5.45am on 6th October 2020 a flock of 5 FRTBC was located on the south-west corner of the block (Figure 1, location AS1). It was considered likely that these FRTBC had night roosted in the remnant. At dusk and at dawn 5.50am on 7th October 2020 no FRTBC were observed in the forest remnant, but at dawn a small flock of 5-7 FRTBC was located to the north of

the remnant on a large roadside tree (Figure 1, location AS2). It was considered likely that these FRTBC had night roosted at location AS2.

3.2.4. Other Fauna Observations

While no nest holes were observed at site, at least two breeding pairs of Western Rosella (*Platycercus icterotis*) and one breeding pair of Red Capped Parrot (*Purpureicephalus spurius*) were noted, indicating that small nesting holes at least are likely present in the high canopy which were not sighted by the surveyor. One Australian Magpie (*Cracticus tibicen*) inhabited stick nest was located in the canopy. Other fauna signs noted were diggings on the south side, likely rabbit, and scat on the western side likely fox. One inhabited den was noted in dense undergrowth, species unidentified.

During the tree survey, tree holes were noted in 3.2.5. The area containing the forest remnant, to the north-west of Manjimup, is known as a location where Western Ringtail Possums (*Pseudocheirus occidentalis*) are specifically known to occur, if in lower abundance compared to coastal peppermint forests (Department of Parks and Wildlife 2014). The tree hollows observed appeared ideal habitat for the Western Ringtail Possum, although no scat or markings were noted. The remnant's owner Mike Smith reported observing Western Ringtail Possums in the local area although not specifically in this forest remnant.

4. Conclusions and Projected Impact of Clearance on Black Cockatoos

The results of this targeted Black Cockatoo assessment were used to determine the likelihood that clearance of the forest remnant at Yanmah Road will have a significant impact on Black Cockatoos, as indicated by the EPBC Act referral guidelines for three threatened black cockatoo species (Commonwealth of Australia 2012). Table 3 presents the summary impact assessment. It can be seen (Table 3) that the forest remnant on Yanmah Road meets, or is likely to meet, three out of five significant impact criteria according to the EPBC Act referral guidelines for three threatened black cockatoo species (Commonwealth of Australia 2012). Due to these high risks of significant impacts on Black Cockatoos, referral under the EPBC Act is recommended (Commonwealth of Australia 2012).

Additionally, the results of this survey were assessed for impact against the criteria laid out in the Western Australian native vegetation clearance guidelines (Department of Environmental Regulation 2014), specifically Principle (b): "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia". Since the forest remnant is demonstrably habitat that contains foraging FRTBC which are listed as Threatened, clearance may be at variance with this principle.

It was noted during assessment that the forest remnant lies within the known range of, and has habitat that may be suitable for, Western Ringtail Possums. Western Ringtail Possums are listed as Threatened under both State and Federal Legislation, with Critically Endangered ranking in State and Commonwealth (Department of Biodiversity, Conservation and Attractions 2019). It is strongly recommended that the remnant receives appropriate Level 1 and Targeted Western Ringtail Possum Fauna Surveys to ensure that all potential fauna species that may be present are identified.

Table 3. Likelihood of significant impact of clearance of the forest remnant at Yanmah Road on Black Cockatoos, assessed against the “High risk of Significant Impact” criteria in the EPBC Act referral guidelines for three threatened black cockatoo species (Commonwealth of Australia 2012)

Significant Impact Criterion (Commonwealth of Australia 2012)	Assessment Result based on Present Survey Data and Information	Summary Significant Impact
Clearing of any known nesting tree	<ul style="list-style-type: none"> No nesting trees in the forest remnant were found in desktop assessment No breeding activity was observed during survey 	x
Clearing or degradation of any part of a vegetation community known to contain breeding habitat	<ul style="list-style-type: none"> Habitat assessment found Marri, Jarrah and Blackbutt at site, all suitable species for Black Cockatoo breeding Habitat assessment found at least 179 trees of the above suitable species exceeded 50cm DBH, although nest holes were not observed due to high canopy The forest remnant meets the referral guidelines as suitable breeding habitat 	✓
Clearing of more than 1 hectare of quality foraging habitat	<ul style="list-style-type: none"> FRTBC were observed present and feeding in the remnant on multiple occasions At least 40 Marri trees showed evidence of foraging by FRTBC The forest remnant fulfils the criteria of being high quality foraging habitat for Black Cockatoos 4.01 hectares are proposed for clearance 	✓
Clearing or degradation of a known night roosting site	<ul style="list-style-type: none"> No night roosting sites recorded by the Great Cocky Count lie within the forest remnant Five FRTBC may have night roosted on one night of this survey, on the south side of the forest remnant Night roosting may occur in the forest remnant. Further survey may confirm, and determine the frequency of night roosting 	✓?
Creating a gap of greater than 4km between patches of black cockatoo habitat	<ul style="list-style-type: none"> The area has numerous forested patches Connections to North Donnelly State forest and other connected national parks and state forests are made via a forest block 1km to the north Clearance is unlikely to significantly reduce connectivity or create a significant gap 	x

5. References

Birdlife Australia 2018. Cockatoo Breeding survey report.

Commonwealth of Australia 2012. EPBC Act referral guidelines for three threatened black cockatoo species.

Department of Biodiversity, Conservation and Attractions 2019. Fauna Profile - Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso*

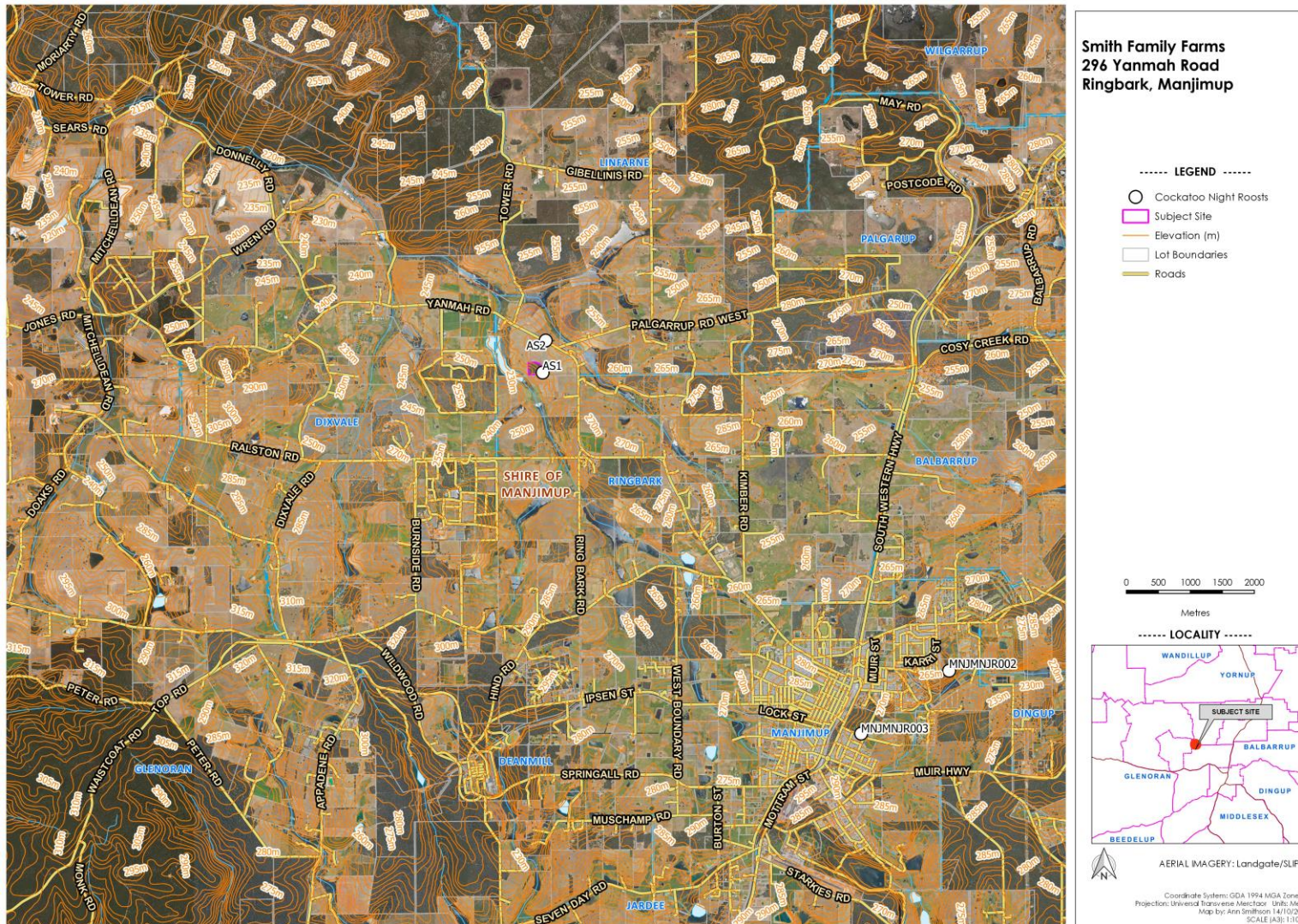
Department Biodiversity, Conservation and Attractions 2019. Threatened and Priority Fauna List

Department of Environmental Regulation 2014. A guide to the assessment of applications to clear native vegetation.

Department of Parks and Wildlife 2014. Western Ringtail Possum (*Pseudocheirus occidentalis*) Recovery Plan.

Black Cockatoo Impact Assessment Yanmah Rd

Figure 1. Location of the focal forest remnant within Lot 810, Yanmah Road in Ringbark, Manjimup, showing context of the remnant within the landscape. Two known Great Cocky Count night roosts (MNJMNJR002 and MNJMNJR003) are shown, along with locations for two potential night roosts for Forest Red Tail Black Cockatoos found during survey (AS1 and AS2).



Black Cockatoo Impact Assessment Yanmah Rd

Figure 2. Tree survey results for the focal forest remnant within Lot 810, Yanmah Road in Ringbark, Manjimup.



Black Cockatoo Impact Assessment Yanmah Rd

Figure 3. Marri fruits observed as foraged by Forest Red Tail Black Cockatoos (*C. banksii naso*) underneath selected trees at the focal forest remnant within Lot 810, Yanmah Road in Ringbark, Manjimup.



