APPENDIX 9B

BLACK COCKATOO ASSESSMENT (2022)

LOTS 62, 63, 20 & 507

Assessment of Nesting, Foraging and Roosting Values for Three Species of Black-Cockatoo in Lots 62, 63, 20 and 507 near Keysbrook, Western Australia

A stag (dead tree) displaying suitable Black-Cockatoo hollows in Lot 63 (Photo by A. McCreery)

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9th September 2022

Contents

1 Introduction

Doral Mineral Sands (Iwatani Australia Pty Ltd) operates the Keysbrook Mineral Sands Mine, south of Perth, and is proposing to expand its operations into Lots 62, 63, 20 and 507 (Figure 1). The majority of the project area is cleared farmland used for livestock grazing, with a few paddock trees and areas of planted eucalypts.

Three threatened black-cockatoo species occur in the area: the Forest Red-tailed (*Calyptorhynchus banksii naso*), Carnaby's (*Calyptorhynchus latirostris*) and Baudin's (*Calyptorhynchus baudinii*) Black-Cockatoos, with their conservation significance under the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and WA *Biodiversity Conservation Act 2016* (WABC Act) presented below (DBCAa, b, c):

- Forest Red-tailed Black-Cockatoo; Vulnerable (EPBC) and Schedule 3 (WABC).
- Carnaby's Black-Cockatoo; Endangered (EPBC) and Schedule 2 (WABC).
- Baudin's Black-Cockatoo; Endangered (EPBC) and Schedule 2 (WABC).

Due to the presence of these species in the general area, Bamford Consulting Ecologists (BCE) was commissioned to undertake an assessment of the four properties for their potential value for nesting, foraging and roosting by these species of black-cockatoos. The survey focussed on potential disturbance areas but included some adjacent areas. Rehabilitation areas and approved disturbance areas were not surveyed (see Figure 1).

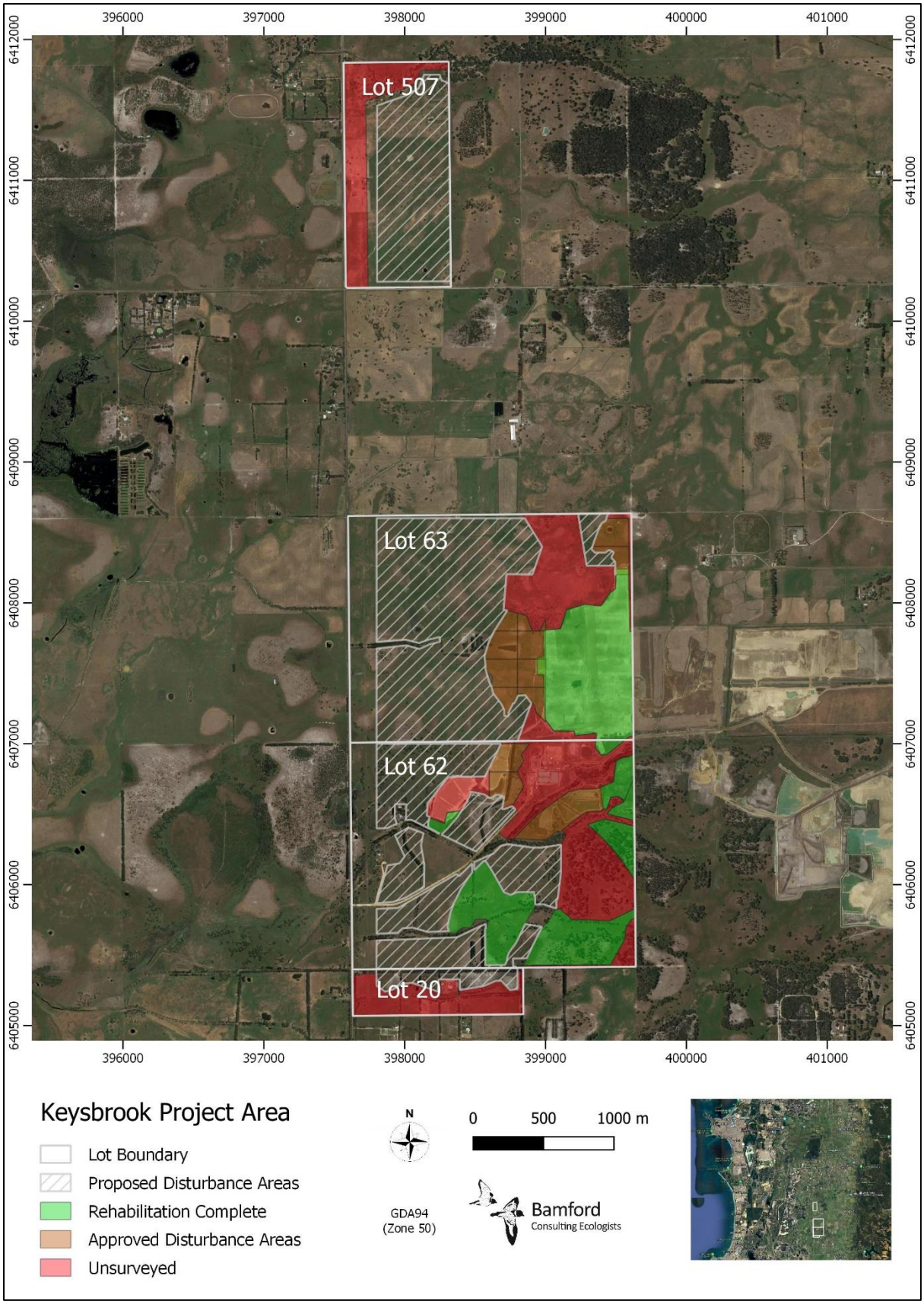

Figure 1. Keysbrook project area showing Lot boundaries, proposed and approved disturbance areas, and areas where rehabilitation has been completed.

2 Methods

The site visit for Lots 62, 63, 20 and 507 was carried out by Andy McCreery (B.Sc.), Wes Bancroft (B.Sc Hons, PhD) and Samantha Lostrom (B.Sc Hons) on the 2nd and 3rd of July 2022. Andy McCreery and Wes Bancroft led the project and both have extensive experience (> 10 years) in assessing breeding and foraging habitat for black-cockatoos. Report preparation was by Kristen Bleby (B.Sc Hons, PhD), Mike Bamford (B.Sc Hons, PhD) and Andy McCreery.

The Department of Agriculture, Water and the Environment (DAWE; now the Department of Energy, Environment and Water (DCCEEW); formerly the Department of the Environment and Energy and the Department of Sustainability, Environment, Water, Population and Communities) provides guidelines for the referral of actions that may result in impact to black-cockatoos. The survey and analysis reported here have been conducted with strong reference to both the existing guidelines (DSEWPaC 2012) as well as the more recently revised draft guidelines (DAWE 2022). In addition, survey methodology followed the recommendations listed on the DAWE's Species Profile and Threats Database (DAWE 2020).

Ecological values for black-cockatoos within the site were based on the definitions of breeding, foraging and roosting habitat as per the EPBC Act referral guidelines for black-cockatoos (DSEWPaC 2012; DAWE 2022), with foraging and nesting values assessed using systems developed by Bamford Consulting Ecologists.

Three areas in the project area were not assessed for nesting, foraging and roosting value for black-cockatoos: the areas of completed rehabilitation, areas of approved disturbance and other areas that will remain undisturbed (Unsurveyed) (Figure 1). The latter two contain areas of paddocks, existing pits and tailings dams, and were not required to be surveyed.

2.1 Assessment of nesting value

The suitability for breeding in the project area was assessed by checking for large, potentially hollow-bearing trees that may facilitate breeding by black-cockatoos. These trees were assigned a rank using a system developed by BCE (Appendix 1).

DSEWPaC (2012) considers trees that meet the basic criterion of having a DBH > 500mm (or > 300mm for Wandoo) as being potential black-cockatoo nest trees. The BCE ranking system allows trees that meet this criterion to be assessed as to the likelihood of a tree actually being used for nesting (Appendix 1). The DBH criterion is also treated only as guidance. This ranking system has been developed by BCE and is regularly used for similar projects. Trees with a rank of 4 or 5 are extremely unlikely to contain hollows that could be used for nesting, although could eventually develop hollows of suitable size. Trees ranked from 1 to 3 are either being used (rank of 1), have been recently used based on chew marks around a suitable hollow entrance (rank of 2), or have potentially suitable hollows that have not been recently used (rank of 3). All trees within the properties were therefore inspected and those that met the basic DBH criterion of DSEWPaC (2012) were numbered and co-ordinates taken with a hand-held GPS, Diameter at Breast Height (DBH) recorded, species and live status recorded, and they were assigned a rank as to their potential for breeding (as outlined in Appendix 1). Some representative photographs were also taken.

2.2 Assessment of foraging value

For foraging value for black-cockatoos, the project site was assessed by inspecting the vegetation and reviewing vegetation descriptions in previous vegetation reports. The foraging score provides a numerical value that reflects the significance of vegetation as foraging habitat for black-cockatoos, and this numerical value is designed to provide the sort of information needed by the Federal Department of Agriculture, Water and the Environment to assess impact significance and potential offset requirements. The foraging value of the vegetation depends upon the type, density and condition of trees and shrubs in an area, and can be influenced by the context such as the availability of foraging habitat nearby. The BCE scoring system for value of foraging habitat has three components as detailed in Appendix 2. These three components are drawn from the DAWE offset calculator but with the scoring approach developed by BCE:

- A score out of six for the vegetation composition, condition and structure.
- A score out of three for the context of the site.
- A score out of one for species density.

Foraging value can thus be assigned a score out of six, based upon site vegetation characteristics, or a score out of 10 if context and species density are also considered. The score out of 10 is calculated only for vegetation of at least Low to Moderate foraging value (vegetation characteristics score of ≥ 3). Vegetation with No, Negligible or Low foraging value is effectively assigned context and species density scores of '0' because the context and species density are of little relevance if the vegetation does not support regular foraging by the birds. Foraging value scores are calculated differently for the three black-cockatoo species (Appendix 2) depending upon the vegetation present.

Note that the Department of Climate Change, Energy, the Environment and Water (DCCEEW 2022) has very recently released new guidance for the assessment of foraging habitat using a different approach to that developed by BCE. This was trialled with results presented in Appendix 3.

2.3 Assessment of roosting habitat

Black-Cockatoo roosting data was assessed using data from the WA government open data source website (DBCA 2020) and from extracted data from the Great Cocky Count (within a 12 km buffer from centre of project area) (Birdlife Australia 2022). The Great Cocky Count takes place annually in early to mid-April. This event records birds as they fly in to roost on a single day and has taken place since 2010. Three species are recorded: Carnaby's, Baudin's and Forest Red-tailed Black-Cockatoos. In the Perth-Peel Coastal Plain, which includes the Keysbrook project area, all white-tailed Black-Cockatoos are assumed to be Carnaby's Black-Cockatoos, although Baudin's Black-Cockatoos may be occasional visitors to the area.

3 Results

3.1 Assessment of nesting value

The survey documented 376 trees meeting the basic criterion of DBH > 500mm (Table 1, Appendix 4). Most of the trees were rank 5 (309) or rank 4 (23). A total of 43 trees were rank 3 and therefore contained hollows that were deemed to have potential for nesting. One tree (#108) was recorded with a BCE rank of 2. This tree had a small (but potentially accessible to a black-cockatoo) hollow entrance in a broken off trunk, about 8 metres high. There were some recent chew marks on the rim around hollow, and also within the hollow 'alcove'. However, it was uncertain as to whether the chew marks were from black-cockatoos or another species.

In the project area the majority of potential nest trees were the native Marri *Corymbia calophylla* (218) (Table 1), with small numbers of Blackbutt *E. patens* (1), Tuart *E. gomphocephala* (7), Flooded Gum *E. rudis* (9) and Jarrah *E. marginata* (7) also present. There were also several rows of Introduced eucalypts ("Introd Euc. sp.") from Eastern Australia planted along creeklines, driveways and surrounding homesteads. In most areas these tall, fast-growing trees often did not meet the minimum DBH to qualify as a potential black-cockatoo tree (> 500 mm). A total of 46 trees were either Marri or Jarrah but were unidentifiable due to being dead with no identifying features such as remnant bark - these were categorised as "Unknown *Euc. sp*." (Table 1). A large number of dead trees (86) (referred to as stags) were recorded in the project area, some of which were identifiable to species (Table 1).

The majority of trees that had a rank of 2 and 3 were Marri or "Unknown *Euc. sp*.", which were very likely to be Marri with some small numbers of Jarrah, given the high proportion of live Marri found in the project area.

Table 1. Number of trees recorded according to the BCE ranking tool for nesting suitability by species and status. The numbers of live and dead trees are a summary and are not included in the total column.

Rank	Marri	Jarrah	Tuart	Black-butt	Flooded Gum	Introd Euc. sp.	Unknown Euc. Sp.	TOTAL	Live	Dead
1	0	0	0	0	0	0	0	**0**	0	0
2	1	0	0	0	0	0	0	**1**	0	1
3	14	0	0	0	1	0	28	**43**	7	36
4	11	1	1	0	0	0	10	**23**	9	14
5	192	6	6	1	8	88	8	**309**	274	35
TOTAL	**218**	**7**	**7**	**1**	**9**	**88**	**46**	**376**	**290**	**86**

Figures 2 and 3 provide a visual representation of the trees and the associated BCE rank within Lots 62, 63 and 20 and 507. The spread of black-cockatoo trees across Lots 62, 63 and 20 appears to show a higher density in the southern half, however there does appear to be a higher proportion of rank 3 trees around the border of Lots 62 and 63 at the western end. There are also several Rank 3 and 4 trees in the northern part of Lot 63. Most of the rank 5 trees were in Lot 62 and along the border between Lot 62 and Lot 20 (Figure 2). In Lot 507, there were not as many suitable trees, but what

rank 3, 4 and 5 trees that were recorded were spread quite evenly throughout the Lot (Figure 3). The majority of trees were in the disturbance areas except in the west and along a creekline in Lot 62.

While there was no confirmed breeding in the area, there was a large area of suitable foraging habitat just over 1km east of Lot 507, and this has the potential to support breeding birds.

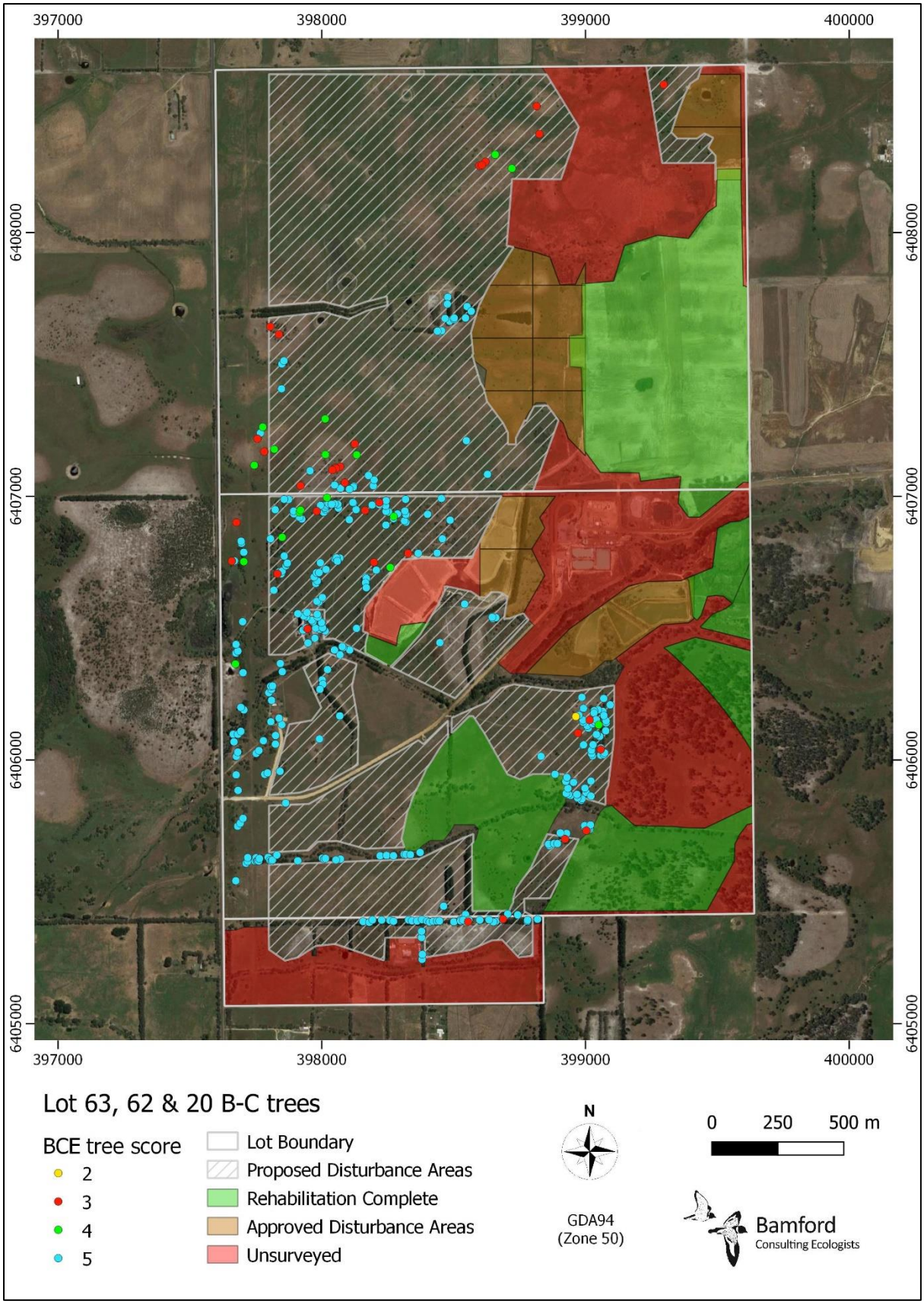

Figure 2. Eucalypt trees in Lots 63, 62 and 20 with a DBH of >500mm and their associated BCE tree rank.

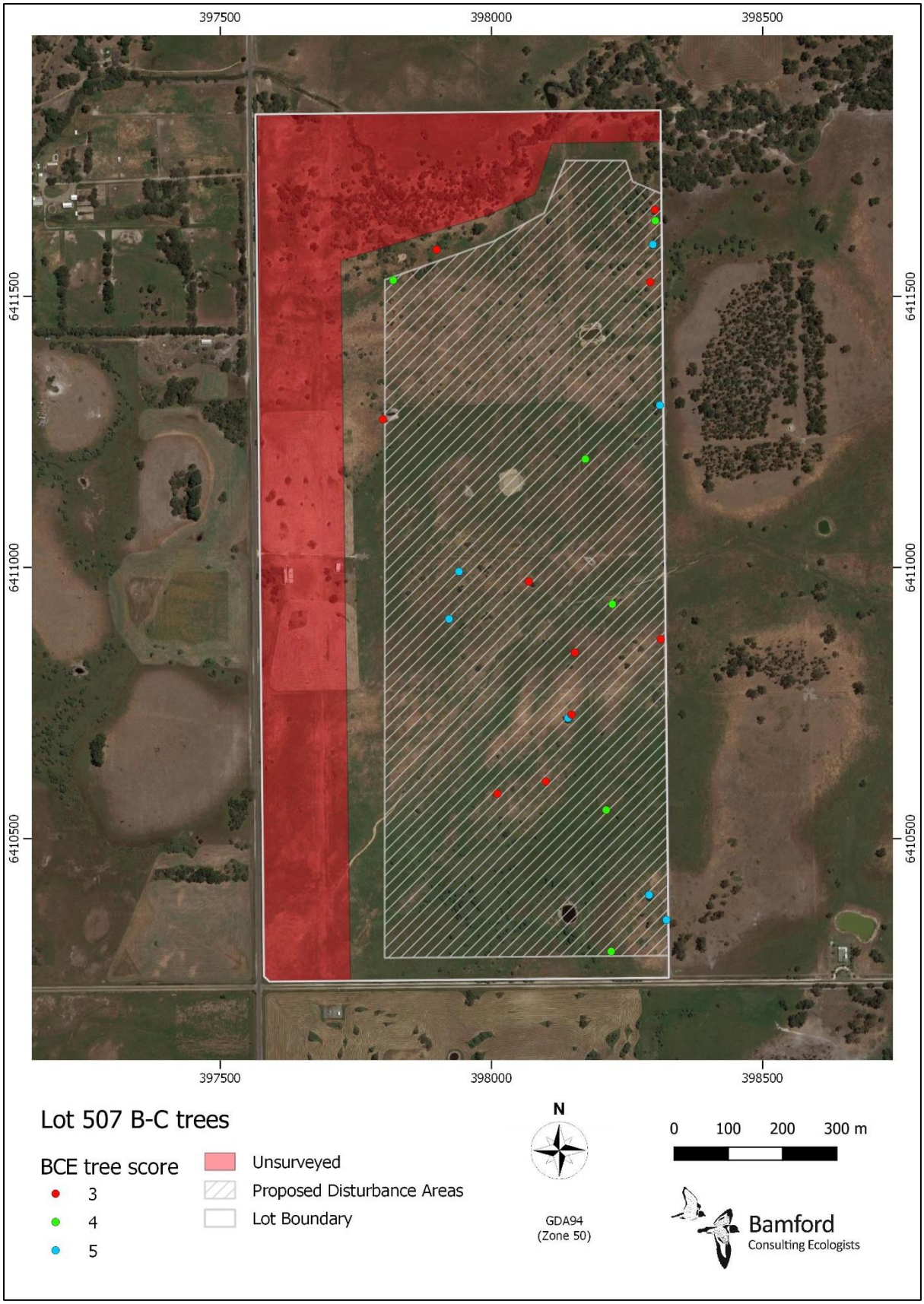

Figure 3. Eucalypt trees in Lot 507 with a DBH of >500mm and their associated BCE tree rank.

3.2 Assessment of foraging value

The project area provides minimal foraging value for black-cockatoos. The project area contains several different vegetation types, but in general the vegetation quality in Lots 62, 63, 20 and 507 was low. The majority of the vegetation in the four Lots was paddocks with few trees. There were no areas of native bushland, and the highest quality habitat were clumps of natives with a weedy understorey (Figures 4 and 5). Five vegetation types could be recognised:

- **Creekline**. There were minor drainage lines surrounded by pasture with remnant Flooded Gum, Marri, Melaleuca. Rows of introduced Eucalypts have become established along the creeklines in Lot 62; particularly the northern creekline.
- **Introduced Eucalypts**. In the project area there were several rows of Introduced eucalypts from Eastern Australia. Introduced eucalypts were mostly planted along creeklines, driveways and surrounding homesteads. In previous assessments in nearby Lots in the area (e.g. McCreery and Bamford, 2022) Forest Red-tailed Black-Cockatoos were seen foraging on introduced eucalypts; however no Forest Red-tailed Black-Cockatoos were observed over the current project area.
- **Wetland.** Intermittent flooding occurs with low-lying areas becoming inundated during the winter months. A 100m buffer surrounding wetlands is excluded from proposed development areas. These low-lying areas were in paddocks with scattered trees and were classed with 'cleared with spare trees' for the assessment of foraging habitat.
- **Pine.** A single stand of pine trees is located in the southern section of Lot 62.
- **Cleared with sparse trees**. This vegetation type consisted of mostly isolated paddock trees with some small clusters of Marri and Melaleuca. Marri represented the most common species followed by Melaleuca with a few Jarrah, Flooded Gum and Tuart trees. There were occasional Sheoak and Woody Pear trees present. In Lot 63 there were large areas where trees were absent.

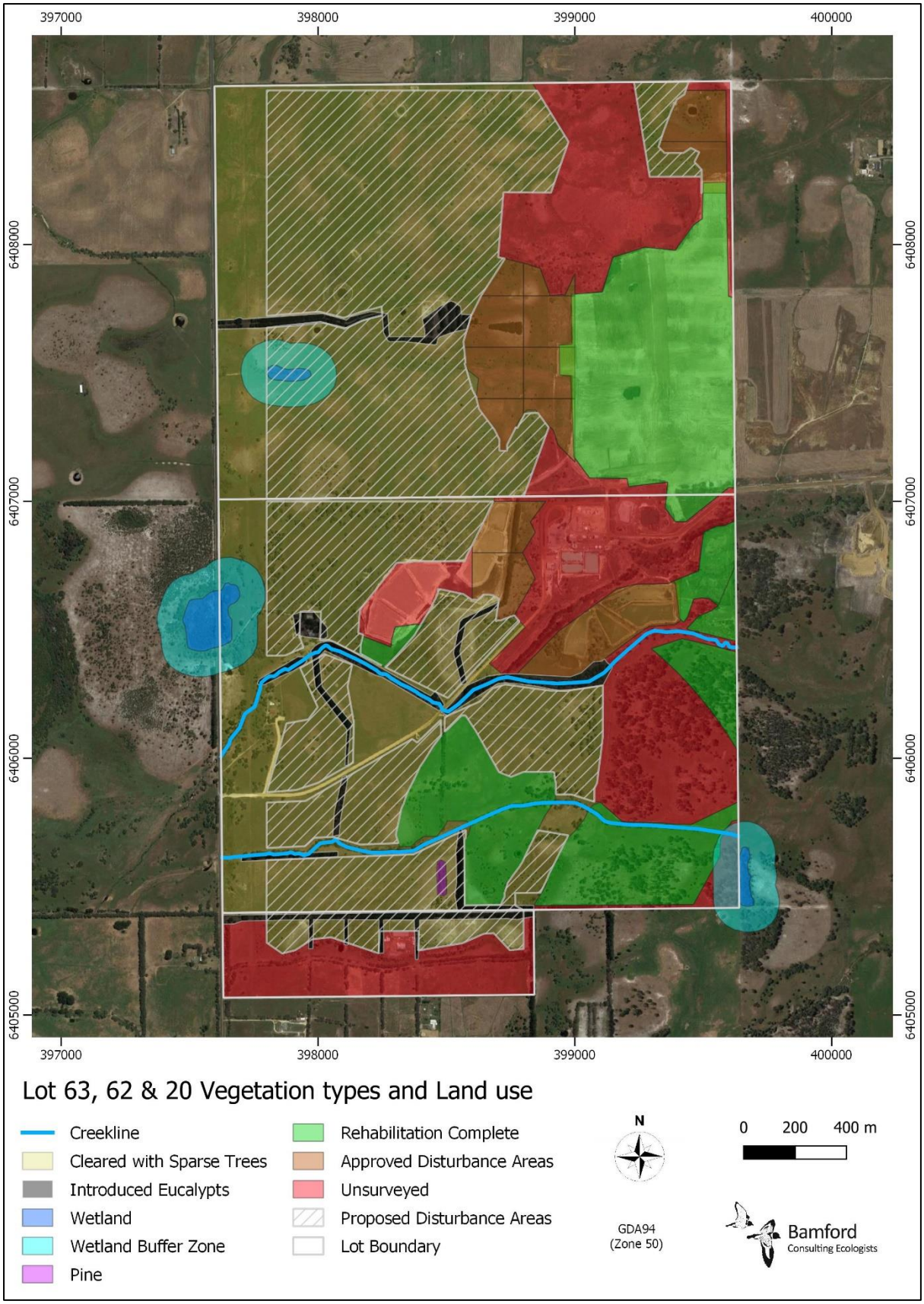

Figure 4. Vegetation types and land use in Lots 62, 63 and 20.

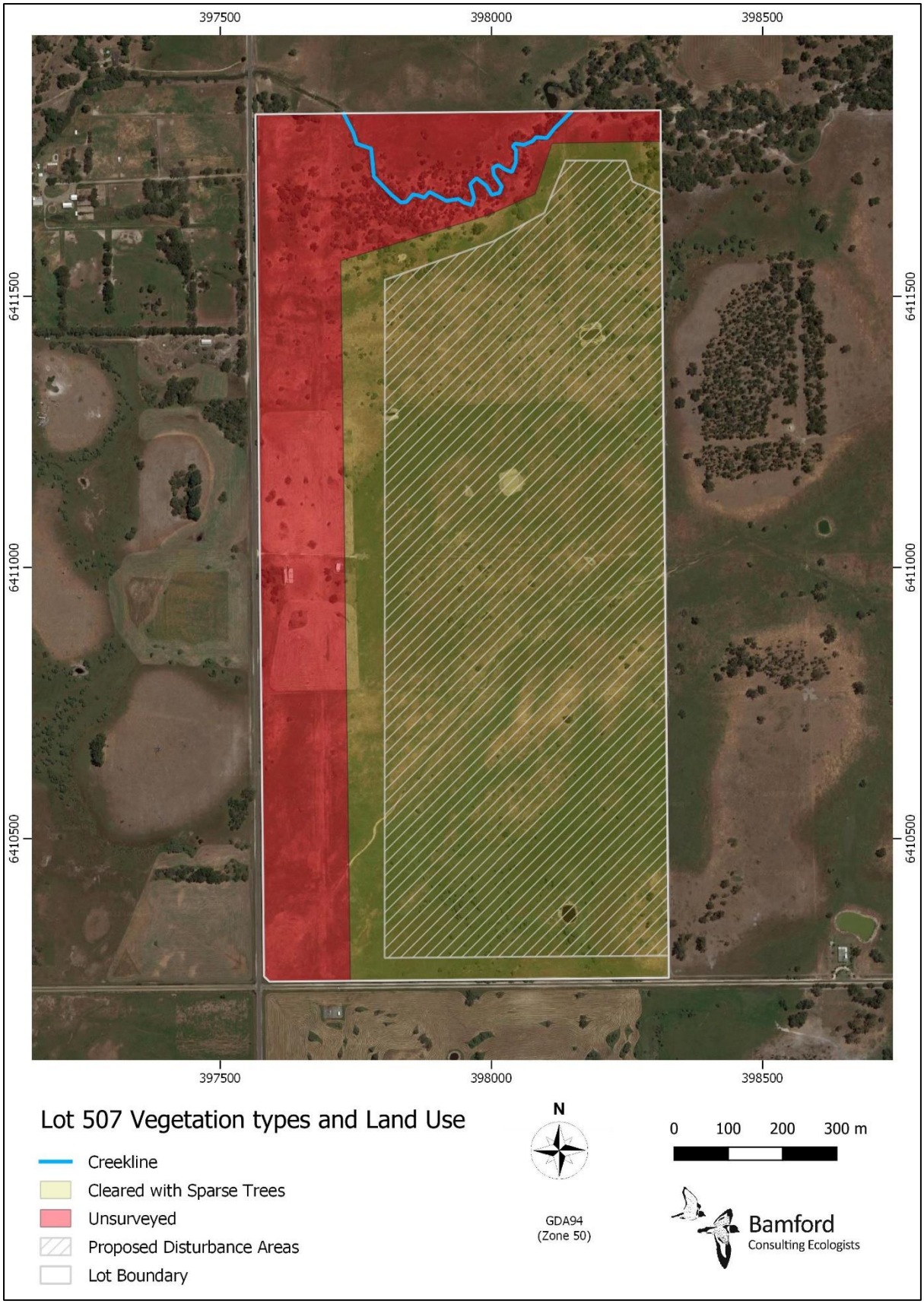

Figure 5. Vegetation types and land use in Lot 507.

The above descriptions were used to assess the quality of foraging habitat for Black-Cockatoos based on the BCE scoring tool in Appendix 2, with foraging values based upon vegetation characteristics, context and species density provided for each species in tables 2 to 4. For the purpose of this foraging value assessment, seasonally inundated areas and creeklines were included in 'cleared with sparse trees', as they were small in area and with similar vegetation characteristics.

Cleared with sparse trees was assigned a vegetation characteristics score of 2 (out of 6) for each species. This value was based on the low density of forage trees (mostly Marri) and with paddocks having some foraging value from the seed of weeds. It is influenced by the presence of some clusters of Marri.

Introduced eucalypts were assigned differing values based on vegetation characteristics, as Carnaby's and Baudin's Black-Cockatoos appear to make less use of introduced eucalypts than the Forest Red-tailed Black-Cockatoo. Likewise pines had differing foraging values, with a high score (4) for Carnaby's and a score of just 1 for the other two species.

Context score is based upon the proportion of regional foraging habitat represented within a project area, the vegetation characteristics score and the presence (or absence) of breeding nearby. As outlined in Appendix 2, a context score of 0 may be assigned where the vegetation characteristics score is <3, but a low context score can be given where vegetation with a low characteristics score has some ecological function. This is the case in the project area due to extensive clearing, where low quality vegetation is a large proportion of what is left. Therefore, a context score of 1 was assigned to all vegetation types for all species except for pines. Pines were assigned a context score of 2 for Carnaby's Black-Cockatoo, as pines are a valuable food source for this species, and they were assigned a context score of 0 for the Forest Red-tailed Black-Cockatoo, which rarely if ever forages on pines.

Appendix 2 recommends a species density score of 0 where the score for vegetation characteristics is <3, irrespective of the presence or absence of records of the birds. No black-cockatoos were observed during the site inspection, and there was only one tree where recent evidence of foraging by Red-tailed Black-Cockatoos was observed. In previous studies nearby at least the Forest Red-tailed Black-Cockatoo was regularly observed (McCreery and Bamford 2022). Assigning an overall species density value of 0 appeared to most accurately reflect the abundance of birds and the vegetation characteristics in the area.

The DCCEEW (2022) tool for scoring forging habitat produced much higher values: 7, 8 and 9 respectively for Baudin's, the Forest Red-tailed and Carnaby's Black-Cockatoos (Appendix 3).

Table 2. Carnaby's Black-Cockatoo foraging assessment

VEGETATION TYPE	VEGETATION CHARACTERISTICS (6)	CONTEXT (3)	SPECIES DENSITY (1)	TOTAL (10)
Cleared with sparse trees	2	1	0	3
Introduced Eucalypts	1	1	0	2
Pines	4	2	0	6

Table 3. Baudin's Black-Cockatoo foraging assessment

VEGETATION TYPE	VEGETATION CHARACTERISTICS (6)	CONTEXT (3)	SPECIES DENSITY (1)	TOTAL (10)
Cleared with sparse trees	2	1	0	3
Introduced Eucalypts	1	1	0	2
Pines	1	1	0	2

Table 4. Forest Red-tailed Black-Cockatoo foraging assessment

VEGETATION TYPE	VEGETATION CHARACTERISTICS (6)	CONTEXT (3)	SPECIES DENSITY (1)	TOTAL (10)
Cleared with sparse trees	2	1	0	3
Introduced Eucalypts	2	1	0	3
Pines	1	0	0	1

3.3 Assessment of roosting habitat

Within the wider Keysbrook area, 12 black-cockatoo roost sites have been confirmed within a 12 km buffer of the project area since 2010 (Birdlife 2022). Of these, four confirmed black-cockatoo roost sites are in close proximity to the project area (Figure 6) (Birdlife 2022, DBCA 2022). The closest roost site to the project area ('Roost 3') is within Lot 62 (central east), which is likely to be within open Eucalypt woodland. The second nearest roost site ('Roost 2') is in quality Marri and Jarrah woodland approximately 1.1 km east of Lot 507 (in Lot 201). A third roost site is in a small patch of woodland 1.5 km east-southeast of Lot 62 ('Roost 4'). The furthest roost site is approximately 2.7 km west of Lot 507 ('Roost 1').

White-tailed black-cockatoos (most likely Carnaby's Black-Cockatoo) have been observed using Roost 1 more than Forest Red-tailed Black-Cockatoos (Table 5 and 6). There have been 10 Great Cocky Count surveys conducted at Roost 1 since 2010 for white-tailed black-cockatoos, with numbers ranging from 0 to 100 per survey (Table 6). This has resulted in a total of 249 white-tailed black-cockatoos since 2010 compared to only 3 Forest Red-tailed Black-Cockatoos observed at Roost 1 since 2014.

In contrast, only Forest Red-tailed Black-Cockatoos have been observed to use Roosts 2, 3, and 4. No white-tailed black-cockatoos were counted at these roosts. Since 2017, a total of 54 Forest Red-tailed Black-Cockatoos were observed at Roost 2 (maximum single count of 26 birds), eight at Roost 3 (maximum single count of 8 birds) and nine at Roost 4 (maximum single count of 6 birds) (Table 5 and Table 6).

Table 5. Data extracted from the Great Cocky Count surveys since 2010 to present day of number of surveys and total numbers observed of white-tailed (either Carnaby's or Baudin's Black-Cockatoo) and Forest Red-tailed Black-Cockatoo for the four roost sites that are in close proximity to the project area.

Site Name	Site category	White-tailed Number of surveys (2010- 2022)	Number of White-tailed counts >0	Sum of White-tailed	Forest Red-tailed number of surveys (2014-2022)	Number of Forest Red-tailed counts >0	Sum of Forest Red-tailed
Roost 1	White-tailed and Forest Red-tailed	10	7	249	8	1	3
Roost 2	Forest Red-tailed	5	0	0	5	4	54
Roost 3	Forest Red-tailed	3	0	0	3	1	8
Roost 4	Forest Red-tailed	2	0	0	2	2	9

Table 6. Data extracted from the Great Cocky Count surveys since 2010 to present day of the numbers/survey of observed white-tailed (either Carnaby's Black-Cockatoo or Baudin's Black-Cockatoo) and Forest Red-tailed Black-Cockatoo for the four roost sites that are in close proximity to the project area.

Site Name	White-tailed												Forest Red-tailed							
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2021	2022	2014	2015	2016	2017	2018	2019	2021	2022
Roost 1	0	.	.	100	3	14	53	0	3	0	4	72	0	0	0	0	0	3	0	0
Roost 2	.	.	.	.	.	.	.	0	0	0	0	0	.	.	.	14	26	9	5	0
Roost 3	.	.	.	.	.	.	.	0	0	0	.	.	.	.	.	0	8	0	.	.
Roost 4	.	.	.	.	.	.	.	0	0	.	.	.	.	.	.	6	3	.	.	.

A period (.) indicates that a survey was not conducted in that year.

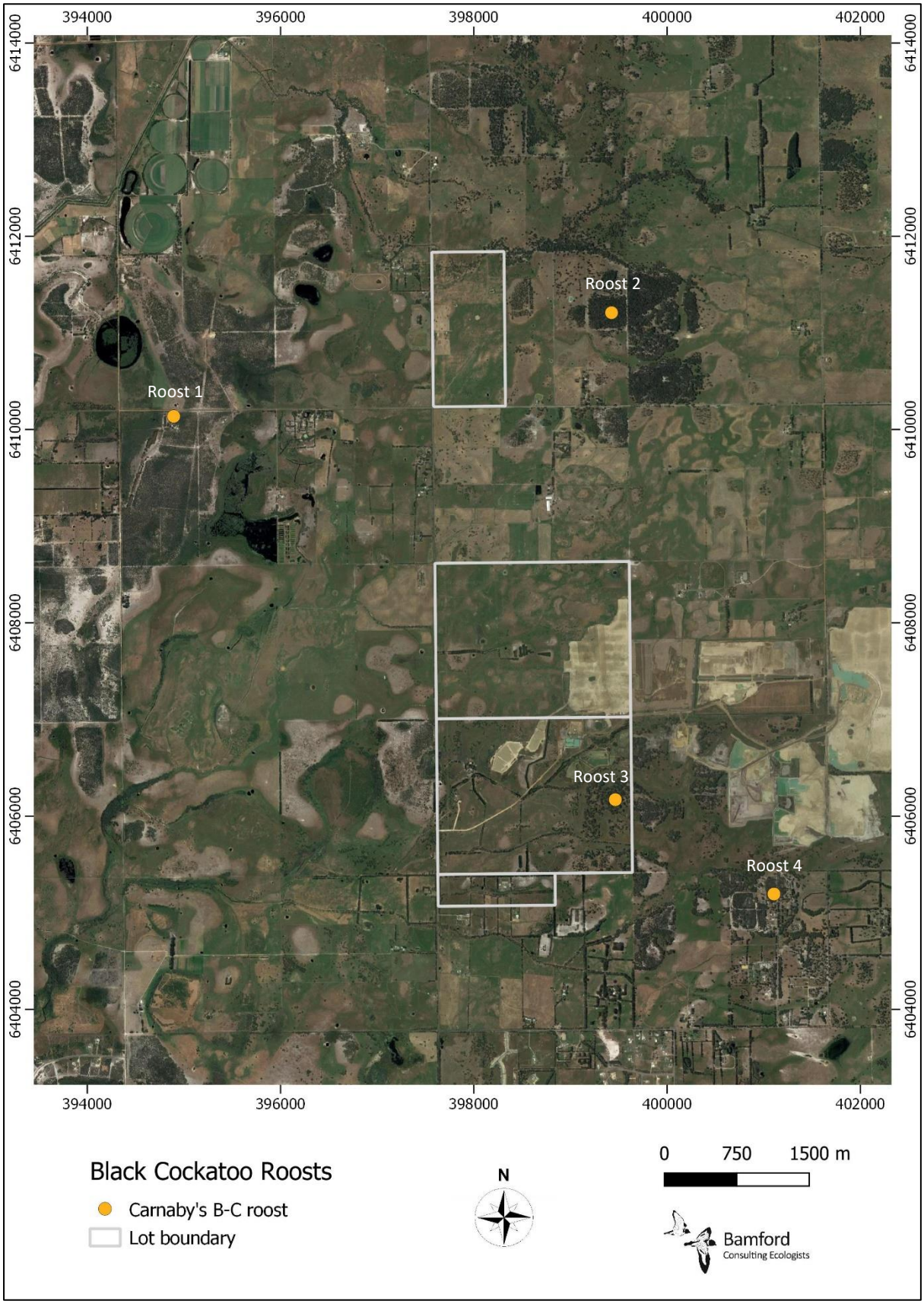

Figure 6. Confirmed black-cockatoo roosts within the general vicinity of the project area (Birdlife Australia, 2022).

3.4 Site photos

Figure 7. Marri cluster in Lot 62.

Figure 8. Marri trees in Lot 62.

Figure 9. Pine row in Lot 62.

Figure 10. Introduced Eucalypts in the background with occasional woody pear and sheoak in the foreground, Lot 62.

Figure 11. Suitable black-cockatoo hollow in Marri.

Figure 12. A stag displaying suitable Black-Cockatoo hollows in Lot 63.

Figure 13. A stag displaying suitable Black-Cockatoo hollows in Lot 63.

Figure 14. Isolated Melaleuca trees in Lot 63

Figure 15. Isolated Melaleuca trees in Lot 507.

4 Conclusions

The project area provides some value for all three black-cockatoo species for nesting and roosting, but low value for foraging.

Of the 376 trees that were surveyed, several displayed hollows that appear to be suitable for nesting with 44 trees with a BCE rank of 3 or higher. One tree had some recent chew marks on the rim around hollow, and also within the hollow 'alcove', however it was uncertain as to whether chew marks were from black-cockatoos or another species.

In general, the condition of the vegetation in the project area was very low. The majority of vegetation was paddocks with few trees. There were no areas of intact native bushland, and the highest quality habitat were clumps of native trees with a weedy understory. Introduced eucalypts were mostly planted along creeklines, driveways and around homesteads. In other Lots in the area (McCreery and Bamford, 2022) Forest Red-tailed Black-Cockatoos have been seen foraging on introduced eucalypts, however no Forest Red-tailed Black-Cockatoos were observed over the current project area and there was no recent foraging evidence, suggesting black-cockatoos are infrequent foraging visitors to the area.

Due to the low quality of foraging vegetation in the project area, most of the vegetation types scored only a low to moderate overall foraging value; the most extensive vegetation type, eucalypts in paddocks, scored a total quality score of 3 (out of 10) for all three species, while introduced eucalypts scored 3 for the Forest Red-tailed Black-Cockatoo only. Pines were an exception, with a total foraging sore of 6 for Carnaby's Black-Cockatoo.

The DCCEEW (2022) foraging value scoring tool yielded much higher foraging values for all three species (Appendix 3). This appears to be because this tool makes no allowance for the density of foraging plants which is a key feature of the BCE system (Appendix 2). A starting score of 10 is used for potential foraging habitat, whether it be intact forest or parkland cleared pasture, and the adjustments (subtractions) do not include an attribute for vegetation characteristics. The DCCEEW (2022) assessment tool should probably not apply to extensively parkland-cleared landscapes.

Breeding by black-cockatoos was not confirmed but some potential nest trees were found and there was some moderately extensive foraging habitat to the east; this could support breeding birds.

Water sources are accessible in the form of farm dams as well as several minor creeklines through Lot 62 and in the north of Lot 507. Such nearby water sources make large trees attractive for roosting. While there was no birds observed during the site visit and very little recent foraging evidence, four known Carnaby's Black-Cockatoo roost sites are known from within 3km of the project area, with one of these on Lot 62.

One of the confirmed roosts ('Roost 1', Figure 6), which is approximately 2.7 km west of Lot 507, has been observed to be used regularly by white-tailed black-cockatoos (most likely Carnaby's Black-Cockatoo) since 2010 to the present, with a maximum annual count of 100 birds (Birdlife Australia 2022). The maximum single count of the Forest Red-tailed Black-Cockatoos was only three birds at

this roost. The other three roosts ('Roosts 2, 3, and 4") have been used by only Forest Red-tailed Black-Cockatoos, with the highest single count of 26 birds at Roost 2. Roost 2 is in quality Marri and Jarrah woodland approximately 1.1 km east of Lot 507 (in Lot 201), whereas Roosts 3 and 4 have been used infrequently by only small numbers of birds, and are in much smaller remnant patches. The presence of these roosts in the region supports the conclusion that birds are likely to forage across the project areas, at least occasionally.

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6 Appendices

6.1 Appendix 1. Ranking system and methods for the assessment of potential nest trees for Black-Cockatoos (Bamford Consulting Ecologists)

Rank	Description of tree and hollows/activity
1	Active nest observed; adult (or immature) bird seen entering or emerging from hollow. Can also be applied to nests which are known to have been used in the previous breeding season (by observation) even if not occupied at the time of inspection.
2	Hollow of suitable size and angle (i.e. vertical or near-vertical) visible with chew marks around entrance.
3	Potentially suitable hollow visible but no chew marks present; or potentially suitable hollow suspected to be present (as suggested by structure of tree, such as large, vertical trunk broken off at a height of >10m).
4	Tree with large hollows or broken branches that might contain large hollows but hollows or potential hollows are not vertical or near-vertical; thus a tree with or likely to have hollows of sufficient size but not to have hollows of the angle preferred by black-cockatoos.
5	Tree lacking large hollows or broken branches that might have large hollows; a tree with more or less intact branches and a spreading crown.

Bamford Consulting Ecologists Black-Cockatoo Breeding Tree Assessment Protocol

Measuring DBH

While Black-cockatoos generally nest towards the crown of a tree, the diameter of a tree at breast-height (DBH) can be indicative of the likelihood of hollow-formation in the upper trunk and can be used in the assessment of the 'value' of a tree to breeding Black-cockatoos. A DBH threshold of 500 mm (or 300 mm for Wandoo, *Eucalyptus wandoo*, and Salmon Gum, *E. salmonophloia*) is commonly used to delineate 'potential' nest-trees (DotE 2018a, b, C), however the tree has to be *functionally capable of supporting a nest hollow* and there are several exceptions where trees that meet a strict DBH threshold are excluded (e.g. those with low-forking into narrow-diameter trunks, or those that have been hollowed-out and 'opened' by fire). There are also examples where trees slightly below the DBH criterion may have suitable hollows. Thus, some discretion needs to be used when assessing trees.

The international standard for 'breast height' is 1.3 m (James and Shugart Jr, 1970). Only occasionally are trees close to perfectly cylindrical. As such, wherever possible, DBH should be 'representative' of the tree. In cases where the tree is approximately oval in cross-section, BCE measures the diameter of the shorter axis. Note that other methods such as circumference, or the quadratic average of the long and short axes are used in some applications, but logistic constraints generally require a more pragmatic approach. DBH should be reflective of the trunk above the breeding threshold (see below). Where a tree spreads at the base along one axis, the axis that best represents the trunk above is chosen for measurement.

Nest height minima

For Carnaby's Black-cockatoo, the minimum height of known nests is c. 3 m (Saunders, 1979). For Forest Red-tailed Black-cockatoo, the minimum height of a known nest is 6.5 m (Johnstone *et al*. 2013a). Thus, a 3-4 m threshold seems a pragmatic "general" one to use for the purposes of field surveys where both species are likely and multiple tree species are under consideration.

Tree forms

Trees have a range of forms and growth-habits. These can occasionally affect Black-cockatoo breeding-tree surveys. As such, the following table has been developed (with reference to the information above) to guide tree assessment.

Additional information and interpretation *(updated 21st October 2020)*

Recording DBH

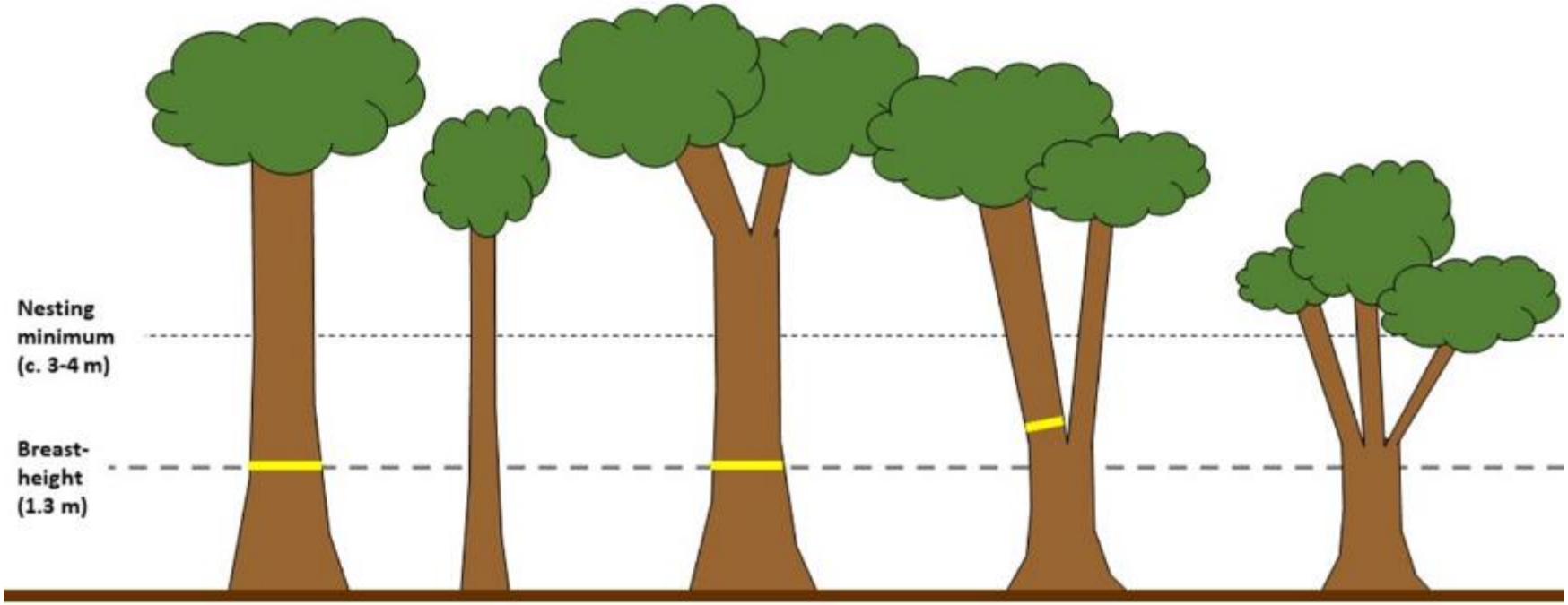
DBH should be measured at 1.3m. While this can be approximate, do not record as DBH a measurement of the trunk at a greater height (certainly not >2m). This can mean you record a massive DBH for a tree that forks just above 2m. In that case, you do need to consider the thickness of those trunks, but you need to consider the thickness of the trunk(s) above DBH in all trees assessed.

For any tree

If the DBH is >500mm but the trunk narrows rapidly, or bends, or forks, then you need to consider if the tree is a rank of 5, or should not be recorded. A rank of 5 implies that the tree has a trunk (or trunks) that go more or less up and maintain a substantial width above the nesting minimum of 3-4m. A 'substantial width' is about 500mm (or 300mm for Wandoo). Your decision is based upon the thickness of the trunk at 3-4m but you record the DBH.

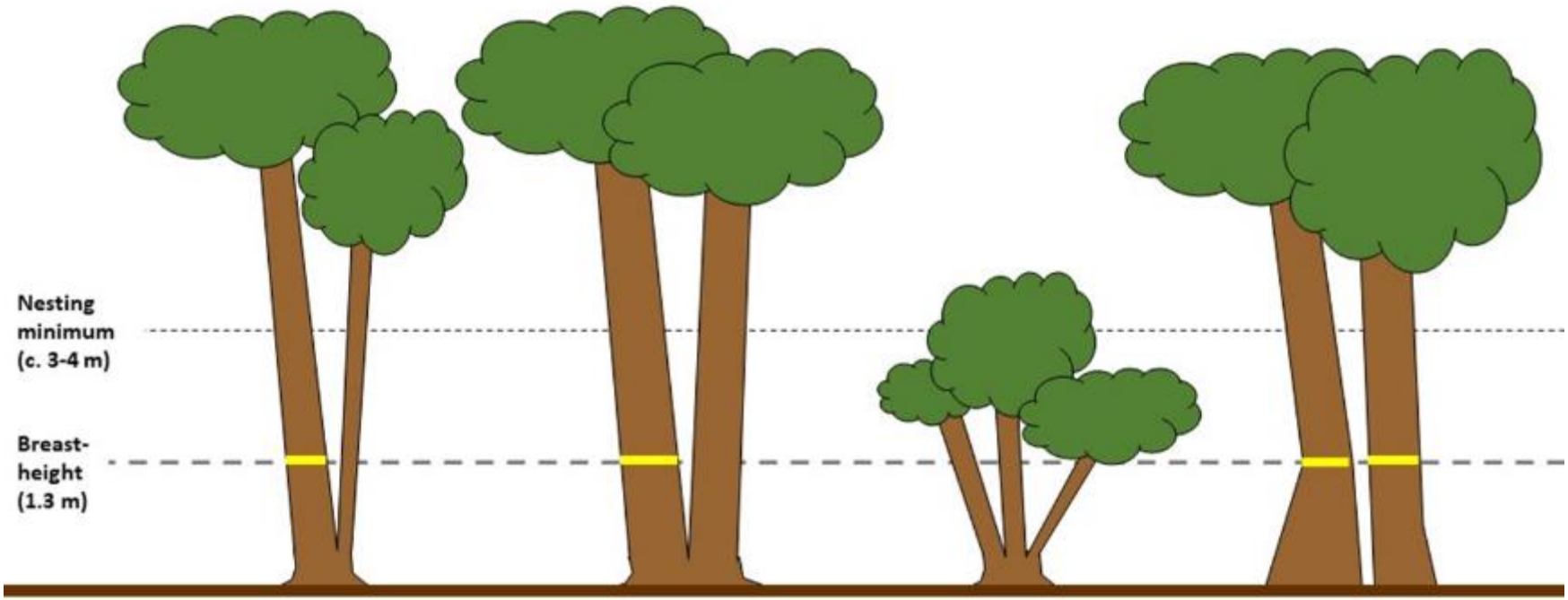
Trunks that fork <DBH

If there are multiple trunks below DBH, it is helpful to record them as if they are separate trees. Thus one tree might have two or three DBH measurements if they are all >500m (or >300mm). The largest trunk can go into the DBH column, but having additional trunks in notes gives an idea of the 'standing crop' of potential large trunks with a suitable DBH, even if some happen to share a root system.



Tree Description:	Straight trunk. DBH > 500 mm*.	Straight trunk. DBH < 500 mm*.	Trunk forks above 3 m. DBH > 500 mm*.	Trunk forks between 1.3 m & 3 m. Diameter of at least one trunk above fork > c. 500 mm*.	Trunk forks between 1.3 m & 3 m. DBH > 500 mm* but no trunks above fork have diameter > c. 500 mm*.
Actions:	Measure DBH. Record species, life status and score for hollows. Waypoint tree.	Do not record.	Measure DBH. Record species, life status and score for hollows. Waypoint tree.	Measure/estimate diameter of widest trunk above fork. Note number of trunks. Record species, life status and score for hollows. Waypoint tree.	Do not record.

* Or 300 mm DBH for Wandoo, Salmon Gum.



Tree Description:	Trunk forks below 1.3 m. Diameter of <u>one</u> trunk above fork > 500 mm*.	Trunk forks below 1.3 m. Diameter of <u>multiple</u> trunks above fork > 500 mm*.	Trunk forks below 1.3 m. DBH of all trunks < 500 mm*.	Two <u>separate</u> trees in very close proximity. Both with DBH > 500 mm.
Actions:	Measure DBH of relevant trunk above fork. Note number of trunks. Record species, life status and score for hollows. Waypoint tree.	Measure DBH of <u>widest</u> trunk above fork. Note number of trunks. Record species, life status and score for hollows. Waypoint tree.	Do not record.	For <u>both</u> trees... Measure DBH. Record species, life status and score for hollows. Waypoint <u>each</u> tree (i.e. 2 separate records).

* Or 300 mm DBH for Wandoo, Salmon Gum.

6.2 Appendix 2. Scoring system for the assessment of foraging value of vegetation for black-cockatoos.

Revised 5th August 2018 (Bamford Consulting Ecologists).

Introduction

Application of the Offset Assessment Guide (offsets guide) developed by the Federal environment department for assessing black-cockatoo foraging habitat requires the calculation of a score out of 10. The following system has been developed by Bamford Consulting Ecologists to provide an objective scoring system that is practical and can be used by trained field zoologists with experience in the environments frequented by the species.

Calculating the total score (out of 10) requires the following steps:

A. Determining a score out of six for the vegetation composition, condition and structure; plus
B. Determining a score out of three for the context of the site; plus
C. Determining a score out of one for species density.
D. Determining the total score out of 10, which may require moderation for context and species density with respect to the vegetation composition.

Calculation of these scores (A-D) and the moderation process are described in detail below.

A. Vegetation composition, condition and structure scoring

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	**Baudin's Black-Cockatoo**	**Forest Red-tailed Black-Cockatoo**
0	No foraging value. No Proteaceae, eucalypts or other potential sources of food. Examples: • Water bodies (e.g. salt lakes, dams, rivers); • Bare ground; • Developed sites devoid of vegetation (e.g. infrastructure, roads, gravel pits).	No foraging value. No eucalypts or other potential sources of food. Examples: • Water bodies (e.g. dams, rivers); • Bare ground; • Developed sites devoid of vegetation (e.g. infrastructure, roads, gravel pits).	No foraging value. No eucalypts or other potential sources of food. Examples: • Water bodies (e.g. dams, rivers); • Bare ground; • Developed sites devoid of vegetation (e.g. infrastructure, roads, gravel pits).
1	Negligible to low foraging value. Examples: • Scattered specimens of known food plants but projected foliage cover of these is < 2%. This could include urban areas with scattered foraging trees; • Paddocks that are partly vegetated with melons or other known food-source weeds (e.g. *Erodium* spp.) that represent a short-term and/or seasonal food source; • Blue Gum plantations (foraging by Carnaby's Black-Cockatoos has been reported but appears to be unusual).	Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. This could include urban areas with scattered foraging trees.	Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include urban areas with scattered foraging trees.

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	**Baudin's Black-Cockatoo**	**Forest Red-tailed Black-Cockatoo**
2	Low foraging value. Examples: • Shrubland in which species of foraging value, such as shrubby banksias, have < 10% projected foliage cover; • Woodland with tree banksias 2-5% projected foliage cover; • Open Eucalypt woodland/mallee of small-fruited species; • Paddocks that are densely vegetated with melons or other known food-source weeds (e.g. *Erodium* spp.) that represent a short-term and/or seasonal food source.	Low foraging value. Examples: • Woodland with scattered specimens of known food plants (e.g. Marri and Jarrah) 1-5% projected foliage cover; • Urban areas with scattered foraging trees.	Low foraging value. Examples: • Woodland with scattered specimens of known food plants (e.g. Marri, Jarrah or Sheoak) 1-5% projected foliage cover; • Urban areas with scattered food plants such as Cape Lilac, *Eucalyptus caesia* and *E. erythrocorys*.
3	Low to Moderate foraging value. Examples: • Shrubland in which species of foraging value, such as shrubby banksias, have 10-20% projected foliage cover; • Woodland with tree banksias 5-20% projected foliage cover; • Eucalypt Woodland/Mallee of small-fruited species; • Eucalypt Woodland with Marri < 10% projected foliage cover.	Low to Moderate foraging value. Examples: • Eucalypt Woodland with known food plants (especially Marri) 5-20% projected foliage cover; • Parkland-cleared Eucalypt Woodland/Forest with known food plants 10-40% projected foliage cover (poor long-term viability without management); • Younger areas of (managed) revegetation with known food plants 10-40% projected foliage cover (establishing food sources with good long-term viability).	Low to Moderate foraging value. Examples: • Eucalypt Woodland with known food plants (especially Marri and Jarrah) 5-20% projected foliage cover; • Parkland-cleared Eucalypt Woodland/Forest with known food plants 10-40% projected foliage cover (poor long-term viability without management); • Younger areas of (managed) revegetation with known food plants 10-40% projected foliage cover (establishing food sources with good long-term viability).

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	**Baudin's Black-Cockatoo**	**Forest Red-tailed Black-Cockatoo**
4	Moderate foraging value. Examples: • Woodland/forest with tree banksias 20-40% projected foliage cover; • Eucalypt Woodland/Forest with Marri 20-40% projected foliage cover.	Moderate foraging value. Examples: • Marri-Jarrah Woodland/Forest with 20-40% projected foliage cover; • Marri-Jarrah Forest with 40-60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths. • Eucalypt Woodland/Forest with diverse, healthy understorey and known food trees (especially Marri) 10-20% projected foliage cover. • Orchards with highly desirable food sources (e.g. apples, pears, some stone fruits).	Moderate foraging value. Examples: • Marri-Jarrah Woodland/Forest with 20-40% projected foliage cover; • Marri-Jarrah Forest with 40-60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths; • Sheoak Forest with 40-60% projected foliage cover.
5	Moderate to High foraging value. Examples: • Banksia Forest with 40-60% projected foliage cover; • Banksia Forest with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths; • Pine plantations with trees more than 10 years old.	Moderate to High foraging value. Examples: • Marri-Jarrah Forest with 40-60% projected foliage cover; • Marri-Jarrah Forest with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths.	Moderate to High foraging value. Examples: • Marri-Jarrah Forest with 40-60% projected foliage cover; • Marri-Jarrah Forest with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths. • Sheoak Forest with > 60% projected foliage cover.

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	**Baudin's Black-Cockatoo**	**Forest Red-tailed Black-Cockatoo**
6	High foraging value. Example: • Banksia Forest with > 60% projected foliage cover and vegetation condition good with low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term).	High foraging value. Example: • Marri-Jarrah Forest with > 60% projected foliage cover and vegetation condition good with low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term).	High foraging value. Example: • Marri-Jarrah Forest with > 60% projected foliage cover and vegetation condition good with low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term).

Vegetation structural class terminology follows Keighery (1994).

B. Site context

The maximum score is given in situations where foraging habitat is supporting breeding birds. It can also be given in fragmented landscapes where there is little foraging habitat remaining and thus what is left has a high contextual value. The site context score is species-specific as it depends upon factors such as the vegetation type and extent, and the presence of breeding birds. The following table, developed by Bamford Consulting Ecologists in conjunction with Federal Department of the Environment and Energy (DoEE), provides a *guide* to the assignation of site context scores (note that 'local area' is defined as within a 15 km radius of the centre point of the study site):

Site Context Score	**Percentage of the existing native vegetation within the 'local' area that the study site represents.**	
	'Local' breeding known/likely	**'Local' breeding unlikely**
3	> 5%	> 10%
2	1 - 5%	5 - 10%
1	0.1 - 1%	1 - 5%
0	< 0.1%	< 0.1%

The table above provides weighting for where nearby breeding is known (or suspected) and for the proportion of foraging habitat within 15km represented by the site being assessed. Some adjustments may be needed based on the judgement of the assessor and in relation to the likely function of the site. For example, a small area of foraging habitat (eg 0.5% of such habitat within 15km) could be upgraded to a context of 2 if it formed part of a critical movement corridor. In contrast, the same sized area of habitat, of the same local proportion, could be downgraded if it were so isolated that birds could never access it. Adjustments to context score are further discussed below (moderation of scores).

C. Species density score

Assignation of the species density score (0 or 1) is based upon the black-cockatoo species being either abundant or not abundant, and is species specific. A score of 1 is used where the species is seen or reported regularly and/or there is abundant foraging evidence. 'Regularly' is when the species is seen at intervals of every few days or weeks for at least several months of the year. A score of 0 is used when the species is recorded or reported very infrequently and there is little or no foraging evidence. Note that context and species density scores are affected by the vegetation score and this is discussed below.

D. Moderation of scores for the calculation of a value out of 10

The foraging value score provides a numerical value that reflects the significance of vegetation as foraging habitat for black-cockatoos, and this numerical value is designed to provide the information needed by the Federal Department of the Environment and Energy (DoEE) to assess impact significance and offset requirements. The foraging value of the vegetation depends upon the type, density and condition of trees and shrubs in an area, and can be influenced by the context such as the availability of foraging habitat nearby. The BCE scoring system for value of foraging habitat has three components as detailed above. These three components are drawn from the DoEE offsets guide but the scoring approach was developed by Bamford Consulting Ecologists.

A A score out of six for the vegetation composition, condition and structure; plus
B A score out of three for the context of the site; plus
C A score out of one for species density.

Foraging value can thus be assigned a score out of six, based upon site vegetation characteristics, or a score out of 10 if context and species density are considered. Assigning a score out of 10 represents step D and may require moderation rather than simple addition.

The score out of six for vegetation characteristics and value can be compared across a site, while a score out of 10 is the overall foraging value and is used for the purposes of aiding offset calculations. The calculation out of 10 requires the vegetation characteristics (out of 6) to be combined with the scores given for context and species density. It is considered that the context and density scores are not independent of vegetation characteristics; otherwise habitat of absolutely no value for black-cockatoo foraging (such as concrete or a wetland) could get a foraging score out of 10 as high as 4 if it occurred in an area where the species breed (context score of 3) and are abundant (species density score of 1). Similarly, vegetation of negligible or low characteristics which could not support black-cockatoos could be assigned a score as high as 6 out of 10. In that case, the score of 6 would be more a reflection of nearby vegetation of high characteristics than of the foraging value of the negligible to low scoring vegetation. The Black-Cockatoos would only be present because of vegetation of high characteristics, so applying the context and species density scores to vegetation of low characteristics would not give a true reflection of their foraging value.

For this reason, the context and species density scores need to be moderated for the vegetation characteristic score to prevent vegetation of little or no foraging value receiving an excessive score out of 10. A simple approach is to assign a context and species density score of zero to with a characteristic score of low (2), negligible (1) or none (0), on the basis that birds will not use such areas unless they are adjacent to at least low-moderate quality foraging habitat (xx 3). The approach to calculating a score out of 10 can be summarised as follows:

Vegetation composition, condition and structure score	Context score	Species density score
3-6 (low/moderate to high value)	Assessed as per B above	Assessed as per C above
0-2 (no to low value)	0	0

Note that this moderation approach may require interpretation depending on the context. For example, vegetation with a condition score of 2 could be given a context score of 1 under special circumstances; such as when very close to a major breeding area or if strategically located along a movement corridor. It could also get an elevated context score if it is the only foraging habitat in an area and birds are present, and also if it is immediately alongside at least moderately good foraging habitat, on the basis that birds are more likely to utilise it if they are nearby. Species density score might also be raised if there is a high likelihood of the birds actually being present. Context score can also be used to give a fine adjustment to the total score, such as if there are two vegetation types with the same vegetation composition score, but one may be slightly better foraging habitat and covers a larger area. Moderation is a means by which fairly subtle differences in overarching foraging value can be recognised.

6.3 Appendix 3. Foraging quality scoring trial for project area using the DCCEEW (2022) guidelines

The DCCEEW (2022) has recently released new guidance for the assessment of foraging values for black-cockatoos. The following text is taken from that guidance. Table 7 reproduces the scoring system template from DCCEEW (2022), while Table 8 presents the application of this template to the current project area.

A foraging habitat quality scoring tool has been developed to guide you on what the department views as important for assessing quality of foraging habitat and which should influence your decision to refer your proposal to the Minister for the Environment for likely significant impacts on foraging habitat.
The scoring tool is designed to be simple, with a structure that allows for more detailed information to be taken into account, if needed. For actions that will clearly require a referral, more detailed information relating to the key attributes in the scoring tool may be required, including on proposed avoidance and mitigation measures.

How the scoring tool works

If your impact site contains native vegetation used for foraging at any time by one or more of the black cockatoo species as described in the table below, and is larger than 1 hectare in size, it is considered at face value to be of very high quality, important for recovery and therefore as having a score of 10. This is because black cockatoos rely on foraging resources to provide sufficient energy for breeding and to rebuild condition in the post-breeding period. The availability of foraging habitat, in close proximity to breeding and night roosting habitat, as well as watering sites, is also critical in ensuring that birds can successfully raise chicks.

The scoring tool includes consideration of the three components used in the EPBC Act Offsets Assessment Guide in the calculation of habitat quality (site condition, site context and species stocking rate) by taking into account contextual factors that may lessen the quality of that habitat, to give you a final habitat quality score, i.e., you use the context adjustors to subtract from your starting score.
To support your habitat score, you should provide an overall appraisal of the habitat to clearly explain and justify the score, and include it in your referral to the minister if you decide to refer.

Using the scoring tool

The scoring tool below is to be applied once to the entire impact area of your proposed action, even if there is more than one type of foraging habitat, for example, Banksia woodland and heath, introduced eucalyptus trees and planted pines (Pinus pinaster). You will always start with a score of 10.

You should complete the scoring tool for each black cockatoo species occurring within your impact area. It is your responsibility to define the impact area and consider indirect, offsite or facilitated impacts on black cockatoos, and include these areas in the definition of your impact area. If you have insufficient evidence to determine what score a particular habitat attribute meets, you should either:

- carry out additional targeted surveys
- apply the precautionary principle (i.e. assume the habitat is of sufficient quality to warrant referral).

The scoring tool should not be used to calculate the value of an offset site.

Table 7. Foraging quality scoring tool template (DCCEEW 2022).

Starting score		Baudin's Black-Cockatoo	Carnaby's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
10		Start at a score of 10 if your site is native eucalypt woodlands and forest, and proteaceous woodland and heath, particularly Marri, within the range of the species, including along roadsides and parkland cleared areas. Can include planted vegetation. This tool only applies to sites equal to or larger than 1 hectare in size.	Start at a score of 10 if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as Banksia spp. (including Dryandra spp.), Hakea spp. and Grevillea spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. This tool only applies to sites equal to or larger than 1 hectare in size.	Start at a score of 10 if your site is Jarrah or Marri woodland and/or forest, or if it is on the edge of Karri forest, or if Wandoo and Blackbutt occur on the site, within the range of the subspecies, including along roadsides and parkland cleared areas. This tool only applies to sites equal to or larger than 1 hectare in size.
Attribute	**Sub- tractions**	**Context adjustor (attributes reducing functionality of foraging habitat)**		
Foraging potential	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.
Connectivity	-2	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.
Proximity to roosting	-1	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.
Impact from significant plant disease	-1	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.
Total score		**Enter score**	**Enter score**	**Enter score**
Appraisal		To support your habitat score, you should provide an overall appraisal of the habitat on the impact site and within 20km of the impact area to clearly explain and justify the score. It should include discussion on the foraging habitat's proximity to other resources (e.g. exact distance to proximate resources), frequency of use of proximate sites, the degree of evidence and description of vegetation type and condition.		

Table 8. Foraging quality scores for the current project area using the tool template (DCCEEW 2022).

Starting score		Baudin's Black-Cockatoo	Carnaby's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
10		10	10	10
Attribute	**Sub- tractions**	**Context adjustor (attributes reducing functionality of foraging habitat)**		
Foraging potential	-2	-2	-2	-0
Connectivity	-2	-0	-0	-0
Proximity to breeding	-2	-0	-0	-0
Proximity to roosting	-1	-1	-0	-1
Impact from significant plant disease	-1	-0	-0	-0
Total score		**7**	**8**	**9**
Appraisal		While there was no confirmed breeding in the project area, there was a total of 44 trees with a BCE rank of 3 or higher. Several similar assessments have been conducted in other Lots in close proximity to the current project area (e.g. McCreery and Bamford 2022). These assessments have recorded moderate to high nesting and foraging value for all three black-cockatoo species, including many large eucalypts with a BCE rank of 3 or higher, vegetation at least of moderate foraging quality, and the presence of feeding Forest Red-tailed Black-Cockatoos during the site visits. There is a large area of suitable foraging habitat just over 2 km east of the project area, which has the potential to support breeding birds. This also provides connectivity to other forested areas, in particular, 6 km to the east along the Darling Scarp. Data gained from the Great Cocky Count confirmed the presence of a Carnaby's Black-Cockatoo roost 2.7 km to the west of the project area, and three Red-tailed Black-Cockatoos roosts within the last eight years, and one of these roost sites lies within the project area. Water sources are accessible in the form of farm dams, an intermittent wetland to the south and a creekline to the north. Such nearby water sources make large trees attractive for roosting.		

6.4 Appendix 4. Locations and descriptions of potential nest trees on the Keysbrook properties.

UTM Zone 50; datum GDA94.

DBH: Diameter at breast height
Pot holl: potential hollows
B-C: black-cockatoo
FRtBC: Forest Red-tailed Black-Cockatoo

Waypoint	Easting	Northing	Species (Scientific)	Status	DBH (mm)	BCE Score	Notes
1	398287.4	6406933	*Corymbia calophylla*	Alive	500	5	
2	398273	6406924	*Corymbia calophylla*	Alive	550	4	
3	398272.3	6406916	*Corymbia calophylla*	Alive	500	5	
4	398243.3	6406891	*Corymbia calophylla*	Alive	550	5	
5	398243.6	6406943	*Corymbia calophylla*	Alive	650	5	
6	398253.3	6406941	*Corymbia calophylla*	Alive	500	5	
7	398242.3	6406964	*Corymbia calophylla*	Alive	550	5	
8	398244	6406983	*Corymbia calophylla*	Alive	500	5	
9	398218.3	6406977	*Corymbia calophylla*	Alive	1000	3	Bee hive in suitable hollow. Australian Ringnecks also prospecting elsewhere in tree.
10	398217.5	6406979	*Corymbia calophylla*	Alive	500	5	
11	398218.6	6406969	*Corymbia calophylla*	Alive	500	5	
12	398191	6406967	*Corymbia calophylla*	Alive	800	5	
13	398164.4	6406946	*Corymbia calophylla*	Alive	900	3	Galahs and Australian Ringnecks prospecting.
14	398130.2	6406949	*Corymbia calophylla*	Alive	700	5	
15	398120.1	6406975	*Corymbia calophylla*	Alive	500	5	
16	398118	6406977	*Corymbia calophylla*	Alive	500	5	
17	398104.5	6406911	*Corymbia calophylla*	Alive	550	5	
18	398062.8	6406956	*Corymbia calophylla*	Alive	500	5	
19	398061	6406970	*Corymbia calophylla*	Alive	500	5	
20	398048.5	6406972	*Corymbia calophylla*	Dead	600	5	
21	398037.8	6406970	*Corymbia calophylla*	Alive	700	5	
23	397805.7	6406839	*Corymbia calophylla*	Alive	700	5	
24	397850.1	6406845	*Corymbia calophylla*	Dead	600	4	Hollow too low.
25	397857.7	6406774	*Corymbia calophylla*	Alive	550	5	
26	397869.8	6406747	*Corymbia calophylla*	Alive	500	5	
27	397869.3	6406744	*Corymbia calophylla*	Alive	500	5	
28	397864.4	6406737	*Corymbia calophylla*	Alive	500	5	
29	397977.7	6406670	*Corymbia calophylla*	Alive	600	5	
30	397983.2	6406679	*Corymbia calophylla*	Alive	500	5	
31	397990	6406711	*Corymbia calophylla*	Alive	550	5	
32	398016.1	6406723	*Corymbia calophylla*	Alive	550	5	
33	398050.5	6406762	*Corymbia calophylla*	Alive	600	5	
34	398055.8	6406767	*Corymbia calophylla*	Dead	500	5	
35	398059.1	6406754	*Corymbia calophylla*	Alive	500	5	

36	398167.3	6406693	*Corymbia calophylla*	Alive	700	5	
37	398169.5	6406688	*Corymbia calophylla*	Dead	600	5	
38	398166.1	6406672	*Corymbia calophylla*	Dead	500	5	
39	398169.1	6406653	*Corymbia calophylla*	Alive	600	5	
40	398131.9	6406499	*Corymbia calophylla*	Alive	500	5	
41	398106.2	6406417	*Eucalyptus sp.*	Alive	500	5	
42	398081.8	6406427	*Eucalyptus sp.*	Alive	500	5	
43	398077.6	6406430	*Eucalyptus sp.*	Alive	500	5	
44	398069.3	6406399	*Corymbia calophylla*	Dead	500	5	
45	398048.2	6406417	*Eucalyptus sp.*	Alive	500	5	
46	398012.9	6406489	*Eucalyptus sp.*	Alive	700	5	
47	398003.1	6406501	*Eucalyptus sp.*	Alive	500	5	
48	397991.7	6406496	*Eucalyptus sp.*	Alive	600	5	
49	398004.1	6406499	*Eucalyptus sp.*	Alive	900	5	
50	397999.3	6406521	*Eucalyptus sp.*	Alive	600	5	
51	398453.9	6406992	*Corymbia calophylla*	Alive	550	5	
52	398487.1	6406910	*Corymbia calophylla*	Alive	500	5	
53	398457.6	6406839	*Corymbia calophylla*	Dead	650	5	
54	398437.6	6406785	*Corymbia calophylla*	Dead	550	5	
55	398365.9	6406784	*Corymbia calophylla*	Dead	500	5	
56	397843	6406366	*Corymbia calophylla*	Alive	600	5	
57	397850.5	6406335	*Eucalyptus sp.*	Alive	500	5	
58	397813.7	6406281	*Corymbia calophylla*	Dead	500	5	
59	397806.3	6406280	*Corymbia calophylla*	Dead	500	5	
60	397809.8	6406268	*Corymbia calophylla*	Dead	600	5	
61	397799.4	6406255	*Corymbia calophylla*	Alive	500	5	
62	397809.8	6406226	*Corymbia calophylla*	Alive	600	5	
63	397807.2	6406145	*Corymbia calophylla*	Alive	500	5	
64	397848.7	6406134	*Corymbia calophylla*	Alive	600	5	
65	397838	6406159	*Corymbia calophylla*	Alive	500	5	
66	397825	6406093	*Corymbia calophylla*	Alive	500	5	
67	397824.4	6406060	*Corymbia calophylla*	Alive	500	5	
68	397778.8	6406073	*Corymbia calophylla*	Alive	600	5	
69	397761.7	6406036	*Corymbia calophylla*	Dead	500	5	
70	397751.4	6406025	*Corymbia calophylla*	Alive	550	5	
71	397783.9	6405946	*Corymbia calophylla*	Alive	550	5	
72	397794.6	6405951	*Corymbia calophylla*	Alive	600	5	
73	397841.8	6405957	*Corymbia calophylla*	Alive	500	5	
74	398022	6406343	*Corymbia calophylla*	Alive	550	5	
75	398002	6406304	*Eucalyptus sp.*	Alive	500	5	
76	398004.2	6406287	*Eucalyptus sp.*	Alive	500	5	
77	397993.1	6406268	*Corymbia calophylla*	Alive	600	5	
78	397991.4	6406080	*Corymbia calophylla*	Dead	700	5	
79	398071.1	6405625	*Eucalyptus sp.*	Alive	500	5	

80	398053.6	6405621	*Eucalyptus sp.*	Alive	500	5	
81	397701.5	6405779	*Corymbia calophylla*	Alive	600	5	
82	397863.1	6405837	*Corymbia calophylla*	Alive	600	5	
83	398462.1	6405446	*Corymbia calophylla*	Alive	650	5	
84	398221.3	6405637	*Eucalyptus rudis*	Alive	700	5	
85	398245.6	6405639	*Eucalyptus rudis*	Alive	500	5	
86	398271.9	6405637	*Eucalyptus rudis*	Alive	700	5	
87	398373	6405650	*Unidentified species*	Dead	700	5	
88	398545.2	6405414	*Corymbia calophylla*	Dead	700	5	
89	398705.1	6405416	*Eucalyptus sp.*	Alive	600	5	
90	398743	6405413	*Eucalyptus rudis*	Alive	550	5	
91	398863.2	6405675	*Corymbia calophylla*	Alive	500	5	
92	398859.7	6405681	*Corymbia calophylla*	Alive	550	5	
93	398881.1	6405683	*Corymbia calophylla*	Alive	600	5	
94	398893.8	6405683	*Corymbia calophylla*	Dead	600	5	
95	398984.4	6405848	*Corymbia calophylla*	Alive	500	5	
96	398969.7	6405857	*Corymbia calophylla*	Alive	500	5	
97	398943.3	6405866	*Corymbia calophylla*	Alive	600	5	
98	398935.5	6405869	*Corymbia calophylla*	Alive	500	5	
99	398926.8	6405874	*Corymbia calophylla*	Alive	500	5	
100	398933.6	6405893	*Corymbia calophylla*	Dead	600	5	
101	398925.3	6405919	*Corymbia calophylla*	Alive	600	5	
102	398929.7	6405934	*Corymbia calophylla*	Alive	700	5	
103	398954.8	6405915	*Corymbia calophylla*	Alive	650	5	
104	398969.2	6405869	*Corymbia calophylla*	Alive	900	5	
105	398967.9	6405870	*Corymbia calophylla*	Alive	500	5	
106	398987.1	6405853	*Corymbia calophylla*	Alive	600	5	
107	399020.9	6405863	*Corymbia calophylla*	Alive	550	5	
108	398963.5	6406165	*Corymbia calophylla*	Dead	700	2	Small-ish hollow entrance in broken off trunk, c. 8 m high. Some recent chew marks on rim around hollow, and also within the hollow 'alcove'. Uncertain as to whether chew marks are from cockatoos or another species.
109	398019.7	6406995	*Eucalyptus marginata*	Alive	800	4	
109	398975.1	6406170	*Eucalyptus marginata*	Dead	700	5	
110	398026.3	6406972	*Corymbia calophylla*	Alive	500	5	
110	398992.6	6406196	*Corymbia calophylla*	Dead	500	5	
111	398016.2	6406965	*Corymbia calophylla*	Alive	500	5	
111	398986.4	6406238	*Corymbia calophylla*	Alive	700	5	
112	398014.5	6406951	*Corymbia calophylla*	Alive	500	5	
112	399069.3	6406234	*Corymbia calophylla*	Alive	500	5	
113	398012.3	6406957	*Corymbia calophylla*	Alive	500	5	
113	399093.9	6406209	*Corymbia calophylla*	Alive	900	5	
114	398007.7	6406939	*Corymbia calophylla*	Alive	500	5	

114	399066.2	6406184	*Corymbia calophylla*	Alive	500	5	
115	397995.4	6406966	*Corymbia calophylla*	Alive	600	5	
115	399070	6406169	*Corymbia calophylla*	Alive	700	5	
116	397981.2	6406944	*Unidentified species*	Dead	850	3	2 pot hol, bees
116	399047.5	6406191	*Corymbia calophylla*	Alive	650	5	
117	397924.3	6406914	*Corymbia calophylla*	Alive	500	5	
117	399033.4	6406187	*Corymbia calophylla*	Alive	500	5	
118	397915.2	6406921	*Corymbia calophylla*	Alive	500	5	
118	399032.5	6406179	*Corymbia calophylla*	Dead	550	5	
119	397915.9	6406939	*Unidentified species*	Dead	500	4	
119	399041.1	6406153	*Corymbia calophylla*	Alive	550	5	
120	397919.6	6406948	*Unidentified species*	Dead	500	4	
120	398884.7	6405946	*Corymbia calophylla*	Alive	600	5	
121	397893.3	6406944	*Corymbia calophylla*	Alive	550	5	
121	398541.7	6406591	*Corymbia calophylla*	Dead	500	5	
122	397894.5	6406933	*Corymbia calophylla*	Alive	500	5	
122	398448	6406445	*Eucalyptus marginata*	Alive	650	5	
123	397874.1	6406988	*Corymbia calophylla*	Alive	750	5	
124	397857.5	6406989	*Corymbia calophylla*	Alive	500	5	
125	397823.5	6406949	*Corymbia calophylla*	Dead	550	5	
126	397676.4	6406901	*Corymbia calophylla*	Dead	700	3	bees
127	397694.3	6406830	*Unidentified species*	Dead	500	5	
128	397695.8	6406822	*Corymbia calophylla*	Alive	750	5	
129	397704.4	6406788	*Corymbia calophylla*	Alive	500	5	
130	397704.4	6406752	*Corymbia calophylla*	Dead	550	4	
131	397659.1	6406754	*Unidentified species*	Dead	700	3	
132	397669.1	6406755	*Unidentified species*	Dead	550	5	
133	397818.4	6406644	*Corymbia calophylla*	Alive	500	5	
134	397832.3	6406706	*Corymbia calophylla*	Dead	550	3	
135	397846	6406706	*Corymbia calophylla*	Alive	500	5	
136	397849.6	6406716	*Corymbia calophylla*	Dead	550	5	
137	397837.4	6406713	*Corymbia calophylla*	Dead	500	5	
138	397700	6406524	*Eucalyptus sp.*	Alive	700	5	
139	397970.9	6406694	*Corymbia calophylla*	Alive	500	5	
140	397980.2	6406710	*Corymbia calophylla*	Alive	500	5	
141	397994.8	6406748	*Corymbia calophylla*	Alive	500	5	
142	398055.7	6406766	*Corymbia calophylla*	Dead	500	5	
143	398068.8	6406766	*Corymbia calophylla*	Alive	600	5	
144	398198.1	6406750	*Corymbia calophylla*	Dead	500	3	
145	398259.7	6406730	*Unidentified species*	Dead	600	4	
146	398206.9	6406720	*Corymbia calophylla*	Alive	500	5	
147	398002.4	6406616	*Corymbia calophylla*	Alive	650	5	
148	397988.3	6406598	*Corymbia calophylla*	Alive	500	5	
149	397981.5	6406602	*Corymbia calophylla*	Alive	500	5	

150	397909.4	6406555	*Eucalyptus sp.*	Alive	500 & 500	5	
151	397932	6406546	*Eucalyptus sp.*	Alive	500	5	
152	397941.4	6406543	*Eucalyptus sp.*	Alive	500	5	
153	397944.1	6406559	*Eucalyptus sp.*	Alive	500	5	
154	397982.9	6406553	*Eucalyptus sp.*	Alive	500	5	
155	397985	6406542	*Eucalyptus sp.*	Alive	550	5	
156	397966.8	6406525	*Eucalyptus sp.*	Alive	500	5	
157	397962.4	6406530	*Eucalyptus sp.*	Alive	1000	5	
158	397941	6406502	*Eucalyptus sp.*	Alive	500	5	
159	397946	6406498	*Unidentified species*	Dead	750	3	2 pot hol, bees
160	397976.7	6406500	*Eucalyptus sp.*	Alive	500	5	
161	397973.9	6406462	*Corymbia calophylla*	Alive	500	5	
162	397947.8	6406444	*Corymbia calophylla*	Alive	700	5	bees
163	397929	6406493	*Eucalyptus sp.*	Alive	550	5	
164	398401.3	6406932	*Corymbia calophylla*	Alive	900	5	
165	398318	6406989	*Corymbia calophylla*	Alive	550	5	
166	398315.4	6406944	*Corymbia calophylla*	Alive	550	5	Old FRTBC foraging
167	398319.2	6406932	*Corymbia calophylla*	Alive	500	5	
168	398313.7	6406907	*Corymbia calophylla*	Alive	500	5	
169	398319.4	6406902	*Corymbia calophylla*	Alive	550	5	
170	398327.4	6406784	*Unidentified species*	Dead	600	3	
171	397682	6406413	*Unidentified species*	Dead	500	5	
172	397674.9	6406438	*Eucalyptus sp.*	Alive	550	5	
173	397674.6	6406406	*Corymbia calophylla*	Alive	500	5	
174	397672.8	6406364	*Unidentified species*	Dead	500	4	
175	397701.5	6406331	*Corymbia calophylla*	Alive	500	5	
176	397704.6	6406190	*Corymbia calophylla*	Alive	650	5	
177	397693.3	6406200	*Corymbia calophylla*	Alive	600	5	
178	397693.3	6406109	*Eucalyptus rudis*	Alive	500	5	
179	397682	6406098	*Eucalyptus sp.*	Alive	500	5	
180	397664.3	6406098	*Eucalyptus rudis*	Alive	550	5	
181	397667.2	6406069	*Eucalyptus sp.*	Alive	500	5	
182	397681.5	6406030	*Corymbia calophylla*	Alive	500	5	Old FRTBC foraging
183	397676.5	6406014	*Corymbia calophylla*	Alive	550	5	
184	397675.4	6405944	*Corymbia calophylla*	Alive	750	5	
185	397682.7	6405885	*Corymbia calophylla*	Alive	500	5	
186	398068.6	6406167	*Unidentified species*	Dead	500	5	
187	397829.9	6405640	*Eucalyptus gomphocephala*	Alive	600	5	
188	397796.7	6405631	*Eucalyptus gomphocephala*	Alive	550	5	
189	397763.8	6405626	*Eucalyptus sp.*	Alive	600	5	
190	397751	6405630	*Eucalyptus sp.*	Alive	500	5	
191	397719.3	6405630	*Eucalyptus gomphocephala*	Alive	500	5	
192	397674	6405542	*Corymbia calophylla*	Alive	500	5	

193	397712.9	6405609	*Eucalyptus sp.*	Alive	550	5	
194	397719	6405615	*Eucalyptus sp.*	Alive	500	5	
195	397746.9	6405617	*Eucalyptus sp.*	Alive	500	5	
196	397754.3	6405617	*Eucalyptus sp.*	Alive	500	5	
197	397756.8	6405618	*Eucalyptus sp.*	Alive	550	5	
198	397761	6405617	*Eucalyptus sp.*	Alive	500	5	
199	397803.8	6405620	*Eucalyptus sp.*	Alive	500	5	
200	397809.7	6405618	*Eucalyptus sp.*	Alive	550	5	
201	397813.1	6405621	*Eucalyptus sp.*	Alive	500	5	
202	397909.2	6405618	*Eucalyptus sp.*	Alive	550	5	
203	398002.5	6405628	*Eucalyptus sp.*	Alive	550	5	
204	398014.3	6405627	*Eucalyptus sp.*	Alive	500	5	
205	398009.1	6405624	*Eucalyptus sp.*	Alive	500	5	
206	397691	6405760	*Corymbia calophylla*	Alive	500	5	
207	397681.3	6405749	*Corymbia calophylla*	Alive	500	5	
208	398312.2	6405642	*Eucalyptus patens*	Alive	500 & 500	5	
209	398318.8	6405643	*Eucalyptus rudis*	Alive	500	5	
210	398336.4	6405641	*Eucalyptus rudis*	Alive	500	5	
211	398904.8	6405724	*Corymbia calophylla*	Alive	600	5	
212	398928.7	6405722	*Corymbia calophylla*	Alive	500	5	
213	398922.6	6405701	*Unidentified species*	Dead	500	3	
214	398997	6405752	*Corymbia calophylla*	Alive	600	5	
215	398997.3	6405746	*Corymbia calophylla*	Alive	550	5	
216	399003.4	6405733	*Corymbia calophylla*	Alive	600	3	
217	399016.7	6405738	*Corymbia calophylla*	Alive	500	5	
218	399011.8	6405740	*Corymbia calophylla*	Alive	500	5	
219	399009.7	6405748	*Corymbia calophylla*	Alive	550	5	
220	399018.9	6405754	*Corymbia calophylla*	Alive	550	5	
221	398997.9	6405893	*Corymbia calophylla*	Alive	550	5	
222	399002.6	6405877	*Corymbia calophylla*	Alive	550	5	
223	399020.7	6405920	*Corymbia calophylla*	Alive	500	5	
224	398992.7	6406058	*Corymbia calophylla*	Alive	800	5	
225	398990.8	6406056	*Corymbia calophylla*	Alive	600	5	
226	399022.5	6406037	*Corymbia calophylla*	Alive	500	5	
227	399023.5	6406023	*Corymbia calophylla*	Alive	500	5	
228	399027	6406016	*Corymbia calophylla*	Alive	600	5	
229	399057.6	6406018	*Corymbia calophylla*	Alive	500	5	
230	399069.7	6406021	*Corymbia calophylla*	Alive	500	5	
231	399072.7	6406027	*Corymbia calophylla*	Alive	500	5	
232	399058	6406040	*Corymbia calophylla*	Dead	800	3	
233	399058.2	6406046	*Corymbia calophylla*	Alive	500	5	
234	399028.9	6406058	*Corymbia calophylla*	Alive	600	5	
235	399054.2	6406090	*Corymbia calophylla*	Alive	500	5	
236	399041.6	6406097	*Corymbia calophylla*	Alive	550	5	

237	399077	6406111	*Corymbia calophylla*	Alive	500	5	
238	399078.6	6406141	*Corymbia calophylla*	Alive	500	5	
239	399078.1	6406149	*Corymbia calophylla*	Alive	600	5	
240	399050.2	6406134	*Corymbia calophylla*	Dead	600	4	
241	399037.9	6406144	*Corymbia calophylla*	Alive	500	5	
242	399027.5	6406138	*Corymbia calophylla*	Alive	500	5	
243	399006.5	6406130	*Corymbia calophylla*	Alive	500	5	
244	399010.6	6406121	*Corymbia calophylla*	Alive	550	5	
245	398971.7	6406102	*Corymbia calophylla*	Dead	900	3	
246	398991.3	6406143	*Corymbia calophylla*	Alive	500	5	
247	398990.7	6406152	*Corymbia calophylla*	Alive	550	5	
248	399015.8	6406152	*Corymbia calophylla*	Alive	600	3	bees
249	398831.5	6406014	*Corymbia calophylla*	Alive	650	5	
250	398646.4	6406542	*Corymbia calophylla*	Alive	500	5	
251	398648.4	6406537	*Corymbia calophylla*	Alive	500	5	
252	398660.1	6406540	*Corymbia calophylla*	Alive	500	5	
253	398527.1	6405390	*Eucalyptus sp.*	Alive	500	5	
254	398526.3	6405394	*Eucalyptus sp.*	Alive	500	5	
255	398500.9	6405387	*Eucalyptus sp.*	Alive	500	5	
256	398446.4	6405390	*Eucalyptus sp.*	Alive	550	5	
257	398437.5	6405390	*Eucalyptus sp.*	Alive	500	5	
258	398422.4	6405389	*Eucalyptus sp.*	Alive	550	5	
259	398409.1	6405386	*Eucalyptus sp.*	Alive	500	5	
260	398399.5	6405390	*Eucalyptus sp.*	Alive	500	5	
261	398378.7	6405351	*Eucalyptus sp.*	Alive	500	5	
262	398378.5	6405327	*Eucalyptus sp.*	Alive	500	5	
263	398381.6	6405263	*Eucalyptus sp.*	Alive	700	5	
264	398380.5	6405244	*Eucalyptus sp.*	Alive	500	5	
265	398380.4	6405395	*Eucalyptus sp.*	Alive	550	5	
266	398361.7	6405390	*Eucalyptus sp.*	Alive	500	5	
267	398342.2	6405391	*Eucalyptus sp.*	Alive	500	5	
268	398329.3	6405394	*Eucalyptus sp.*	Alive	500	5	
269	398272.2	6405389	*Eucalyptus sp.*	Alive	500	5	
270	398258.5	6405392	*Eucalyptus sp.*	Alive	600	5	
271	398227.3	6405393	*Eucalyptus sp.*	Alive	500	5	
272	398192.3	6405394	*Eucalyptus sp.*	Alive	500	5	
273	398180.6	6405385	*Eucalyptus sp.*	Alive	500	5	
274	398156.6	6405388	*Eucalyptus sp.*	Alive	500	5	
275	398477.8	6407755	*Eucalyptus sp.*	Alive	500	5	
276	398467.6	6407674	*Eucalyptus sp.*	Alive	500	5	
277	398485.3	6407664	*Eucalyptus sp.*	Alive	550 & 500	5	
278	398502.4	6407671	*Eucalyptus sp.*	Alive	500	5	
279	398551.1	6407720	*Eucalyptus sp.*	Alive	500	5	
280	398620.7	6408269	*Unidentified species*	Dead	1200	3	3 pot hol, bees

281	398597.7	6408254	*Unidentified species*	Dead	650	3	2 pot hol
285	398548.4	6407211	*Eucalyptus marginata*	Alive	500	5	
286	398195.6	6407040	*Corymbia calophylla*	Alive	500	5	
287	398198.7	6407062	*Corymbia calophylla*	Alive	550	5	
288	398177.1	6407079	*Corymbia calophylla*	Alive	550	5	
289	398132.6	6407157	*Corymbia calophylla*	Alive	600	4	
290	398125.1	6407199	*Corymbia calophylla*	Dead	500	3	
291	398014	6407158	*Unidentified species*	Dead	500	4	
292	397955.8	6407097	*Unidentified species*	Dead	500	5	
293	397919.7	6407040	*Unidentified species*	Dead	500	3	
294	397744	6407118	*Corymbia calophylla*	Alive	600	4	
295	397756.3	6407218	*Unidentified species*	Dead	500	3	2 pot hol
296	397767.4	6407240	*Corymbia calophylla*	Alive	500	5	
297	397776.2	6407263	*Corymbia calophylla*	Alive	750	4	
298	397847.5	6407408	*Corymbia calophylla*	Alive	900	5	
299	397856.6	6407514	*Corymbia calophylla*	Alive	500	5	
300	397848.8	6407502	*Corymbia calophylla*	Dead	500	5	
301	397837.4	6407614	*Corymbia calophylla*	Dead	550	3	
302	398013	6407294	*Corymbia calophylla*	Alive	1000	4	
303	398454.9	6407628	*Eucalyptus sp.*	Alive	500	5	
304	398449.9	6407624	*Eucalyptus gomphocephala*	Alive	550	5	
305	397800	6411273	*Unidentified species*	Dead	500	3	
306	398173	6411200	*Unidentified species*	Dead	550	4	bees
307	398310.5	6411299	*Unidentified species*	Dead	500	5	
308	398147.6	6410728	*Unidentified species*	Dead	500	3	
309	398141	6410722	*Corymbia calophylla*	Alive	550	5	
310	398010.8	6410583	*Unidentified species*	Dead	800	3	2 pot hol
311	398099.9	6410605	*Unidentified species*	Dead	650	3	
312	398211.5	6410553	*Unidentified species*	Dead	500	4	
313	398290.6	6410396	*Eucalyptus marginata*	Alive	600	5	
314	398322.6	6410350	*Eucalyptus marginata*	Dead	500	5	
315	398220.7	6410292	*Unidentified species*	Dead	600	4	
539	398818.3	6405396	*Eucalyptus gomphocephala*	Alive	570	5	
540	398779.8	6405389	*Eucalyptus sp.*	Alive	650	5	
541	398780.5	6405393	*Eucalyptus gomphocephala*	Alive	500	5	
542	398687.2	6405397	*Unidentified species*	Dead	540	3	2 potential hollows
543	398681.4	6405396	*Eucalyptus sp.*	Alive	500	5	Eastern species
544	398659.4	6405388	*Eucalyptus sp.*	Alive	500	5	Eastern species
545	398651.2	6405386	*Eucalyptus sp.*	Alive	510	5	Eastern species
546	398634.3	6405394	*Eucalyptus sp.*	Alive	520	5	Eastern species
547	398599.5	6405393	*Eucalyptus sp.*	Alive	650	5	Eastern species
548	398558	6405393	*Eucalyptus sp.*	Alive	800	5	Eastern species
549	398554.8	6405387	*Unidentified species*	Dead	750	3	4 potential hollows

550	398543.1	6405388	*Eucalyptus sp.*	Alive	680	5	Eastern species
551	398539.4	6405391	*Eucalyptus sp.*	Alive	500	5	Eastern species
552	398536.2	6405393	*Eucalyptus sp.*	Alive	690	5	Eastern species
553	398476.3	6407729	*Eucalyptus sp.*	Alive	520	5	Eastern species
554	398502.1	6407676	*Eucalyptus sp.*	Alive	560	5	Eastern species
555	398545.1	6407676	*Eucalyptus sp.*	Alive	510	5	Eastern species
556	398566.9	6407702	*Eucalyptus sp.*	Alive	500	5	Eastern species
557	398657.7	6408296	*Unidentified species*	Dead	1200	4	
558	398607.1	6408256	*Unidentified species*	Dead	970	3	2 potential hollows
559	398721.2	6408243	*Corymbia calophylla*	Alive	830	4	
560	398825.3	6408374	*Unidentified species*	Dead	740	3	2 potential hollows
561	398814.8	6408479	*Unidentified species*	Dead	800	3	1 potential hollow
562	399296.8	6408561	*Unidentified species*	Dead	700	3	6 potential hollows
565	398628.6	6407083	*Corymbia calophylla*	Alive	500	5	Approximate DBH (bees)
566	398121.7	6407038	*Corymbia calophylla*	Alive	560	5	
567	398119.5	6407035	*Corymbia calophylla*	Alive	790	5	
568	398104.9	6407027	*Corymbia calophylla*	Alive	540	5	
569	398087.4	6407052	*Unidentified species*	Dead	780	3	2 potential hollows
570	398071.2	6407030	*Corymbia calophylla*	Alive	500	5	Red-tailed Black Cockatoo feeding debris
571	398048.7	6407043	*Eucalyptus marginata*	Alive	500	5	
572	398069.7	6407112	*Unidentified species*	Dead	670	3	Approximate DBH (bees), 2 potential hollows
573	398053.2	6407109	*Unidentified species*	Dead	770	3	3 potential hollows
574	398054.6	6407106	*Unidentified species*	Dead	620	3	1 potential hollow
575	398040.1	6407100	*Unidentified species*	Dead	740	3	1 potential hollow
576	397782	6407170	*Unidentified species*	Dead	1030	3	1 potential hollow
577	397820.1	6407178	*Unidentified species*	Dead	550	4	
578	397805.1	6407643	*Corymbia calophylla*	Alive	940	3	2 potential hollows
579	398438.7	6407626	*Eucalyptus sp.*	Alive	940	5	
580	398301.3	6411660	*Corymbia calophylla*	Dead	750	3	1 potential hollow
581	398302	6411639	*Corymbia calophylla*	Dead	510	4	1 hollow with suitable structure but housing bees
582	398297.8	6411595	*Corymbia calophylla*	Dead	570	5	
583	398292.6	6411526	*Unidentified species*	Dead	510	3	1 potential hollow
584	397818.8	6411529	*Eucalyptus gomphocephala*	Alive	700	4	
585	397898.7	6411586	*Eucalyptus rudis*	Alive	720	3	3 potential hollows
586	398222.9	6410932	*Corymbia calophylla*	Alive	880	4	
587	398069	6410974	*Corymbia calophylla*	Alive	500	3	2 potential hollows
588	397940.1	6410992	*Unidentified species*	Dead	720	5	
589	397921.7	6410905	*Corymbia calophylla*	Alive	760	5	
590	398153.6	6410843	*Unidentified species*	Dead	640	3	1 potential hollow
591	398312.2	6410867	*Unidentified species*	Dead	830	3	1 potential hollow