

## APPENDIX 9C

### BLACK COCKATOO NEST ASSESSMENT (2023)

Lot 63



Australian Black Cockatoo Specialists

# **Assessment of 11 trees for Nesting values for three species of Black-Cockatoo in Lot 63 Hopeland Rd Keysbrook, Western Australia**



Doral Mineral Sands Pty Ltd  
Western Australia

10 April 2023



# Australian Black Cockatoo Specialists

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All images source: Rick Dawson

## INTRODUCTION

Australian Black Cockatoo Specialists (ABCS) are pleased to submit this report to Doral Mineral Sands Pty Ltd (DMS) regarding the inspection of 11 trees that had been identified by M.J. & A.R. BAMFORD CONSULTING ECOLOGISTS (BCE) as potential Black cockatoo hollows in Lot 63 Hopeland Rd Keysbrook WA on Tuesday 4<sup>th</sup> April 2023.

## BACKGROUND

Doral Mineral Sands 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. 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: 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 (DBCAs, b, c):

Due to the presence of these species in the general area, ABCS was commissioned to undertake an assessment of 11 trees in Lot 63 that had been identified by BCE as potential Black cockatoo nesting hollows.

## INSPECTION METHOD

ABCS has over 25 years' experience in conducting black cockatoo nesting surveys and has a specially fitted 4WD vehicle that can carry ladders over 10m and all equipment to conduct the survey. As it is very late in the nesting season most nesting activity will have been completed, however ABCS has extensive experience and can provide confirmation of any nesting attempts by Black Cockatoos.

The objective of the survey was to establish if the 11 identified trees in lot 63 are suitable for nesting by Black cockatoos. The scope of this project included:

- undertaking a close visual inspection of the hollows via camera pole, drone and or ladder, any evidence of nesting/suitability of the hollow was then photographed.
- Details of any use including non-target species was recorded.

Black Cockatoos are known to 'prospect' (inspect a hollow for suitability) This can be done over many days. Prospecting can be one or all of the following:

- Chewing the top of the hollow or side walls,
- Entering hollow,
- Heavy faeces load
- Compacting hollow floor, and
- Digging a depression in the hollow floor.

Rick Dawson has over 25 years' experiences inspecting black cockatoo hollows from the Murchison to Ravensthorpe and has arguably inspected (visually, by ladder) more black cockatoo hollows than anyone else in WA.

## CONCLUSION

Lot 63 is very degraded and has been subjected to heavy grazing for many years. It has no understory and the remaining dead stags are all unstable due to the long term farming of cattle who have exposed the lower trunk and root areas of most trees.



All but one (1) of the 11 trees that were identified by BCE as containing possible black cockatoo hollows were inspected visually by ladder. DMS1108 was too dangerous to climb, however a pole camera was used to good effect.

The following trees do not have any hollows that are suitable or have been used by black cockatoos (see Annex1): DMS918, DMS1096, DMS1095, DMS1097, DMS919, DMS1099, DMS1104, DMS1108, DMS1109, DMS1110.

Tree DMS1093, is a large unstable dead stack. Two hollows were identified by BCE, however only one of them is suitable for cockatoos/parrots. This hollow has Galah feathers, and owl scats and has a tight opening/entry into the hollow. The hollows floor is small and not of a size generally used by Black Cockatoos. This hollow is rated as potential, however unlikely to be used by black cockatoos due to its size.

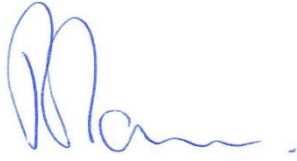
Tree DMS918, is a large dead stag (within 10m of DMS1093), with two hollows, the lower is a small hollow with abandoned duck eggs, the upper hollow is a very large (50-60cm dia) well used hollow with one small piece of egg shell (galah, Corella, Nankeen Kestrel) with numerous large splits in the hollow wall at the floor level. This is allowing the elements to effect the hollow floor, and also making it susceptible to predation. The tree is unstable, and the top hollow will break away very soon due to the large splits and the thin hollow walls. The lower hollow's floor is uneven and is only 23cm at its largest point and neither are suitable for Black Cockatoos.

Tree DMS1104 is a large stable dead stack. Two hollows were identified by BCE. Both were shallow and not suitable for Black Cockatoos. The lower and larger of the two had a Brush-tailed Possum in it. If DMS is going to remove this tree, then the hollow should be inspected to insure that possum is not present prior to clearing.

It was clear that non endangered cockatoos, parrots and raptors are using the dead stags, therefore ABCS recommend that should the remaining dead stags be removed, that this is not done in the nesting season for parrots and cockatoos (June to December). It should also be noted that raptors can breed all year and the hollows in trees DMS918, DMS1093, DMS1095, DMS1097, DMS1099, DMS1104, should be inspected prior to clearing.

## CONTACT INFORMATION

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Rick Dawson  
Director  
Australian Black Cockatoo Specialist  
10 April 2023

## Annex 1: Specific details of each hollow

East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398598	6408254	Dead	2	650	DMS918	Lot63	4/4/23	<b>NO</b>	A Large dead stack (within 10m of DMS1093), with two hollows, the lower is a small hollow with abandoned duck eggs, the upper hollow is a very large (50-60cm dia) well used hollow with one small piece of egg shell (galah, Corella, Nankeen Kestrel) with numerous large splits in the hollow wall at the floor level, allowing the elements to effect the hollow floor, and also making it susceptible to predation. The tree is unstable, and the top hollow will break away very soon, due to the large splits and the thin hollow walls. The lower hollow floor is uneven and is only 23cm at its largest point and neither are suitable for Black Cockatoos
398607	6408256	Dead	2	970	DMS1093	Lot63	4/4/23	<b>Possible</b>	A large unstable dead stag. Two hollows were identified by BCE, however only one of them is suitable for cockatoos/parrots. This hollow has Galah feathers, and owl scats and has a tight opening/entry into the hollow. The hollows floor is small and not of a size generally used by Black Cockatoos. This hollow is rated as potential, however unlikely to be used due to its size
398815	6408479	Dead	1	800	DMS1096	Lot63	4/4/23	<b>NO</b>	This tree is a medium size dead stack with no useable hollows. There are two small depressions (not hollows) in the main tube however they are only a few centimetres deep and not viable.
398825	6408374	Dead	2	740	DMS1095	Lot63	4/4/23	<b>NO</b>	Is a tall unstable dead stag with small trunks, the two hollows identified by BCE are too small for Black Cockatoos, and due to the trunk size they have no potential to become so in the future. The larger of the two small hollows has Galah feathers on the floor. The other is not big enough even for small parrots.
399297	6408561	Dead	6	700	DMS1097	Lot63	4/4/23	<b>NO</b>	Is a large unstable dead stag, that BCE identified to have six potential hollows, all six are very shallow and not large enough for Black cockatoos to nest in.
399477	6408591	Dead	2	500	DMS919	Lot63	4/4/23	<b>NO</b>	This tree is a medium size dead stack with two small shallow hollows that are not suitable for use by Black Cockatoos.
399459	6408426	Dead	3	480	DMS1099	Lot63	4/4/23	<b>NO</b>	A small unstable dead stack, that BCE identified to have two potential hollows both are very shallow and small and not large

									enough for Black Cockatoos to nest in. The larger of the two hollows (see photo) has signs of nesting by Ring Neck Parrots.
398087	6407052	Dead	2	780	DMS1104	Lot63	4/4/23	<b>NO</b>	A large dead stack. Two hollows were identified by BCE. Both were shallow and not suitable for Black Cockatoos. The lower and larger of the two had a Brush-tailed Possum in it.
398053	6407109	Dead	3	770	DMS1108	Lot63	4/4/23	<b>NO</b>	Very unstable medium stag, dangerous and unable to climb, however used Pole camera, three hollows were identified by BCE. All three unsuitable for Black cockatoos. The largest of them is approximately 20cm in diameter and deep and tappers quickly out of view.
398055	6407106	Dead	1	620	DMS1109	Lot63	4/4/23	<b>NO</b>	Very unstable medium stag, with no hollows that are suitable for use by Black Cockatoos.
398040	6407100	Dead	1	740	DMS1110	Lot63	4/4/23	<b>NO</b>	Medium stag stack with no hollows that are suitable for use by Black Cockatoos.



APPENDIX 2 – HOLLOW DETAILS

Natural Hollow DMS918



Large split in hollow, very unstable

East	Northing	Status of tree	Potential hollows	DBH mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398598	6408254	Dead	2	650	DMS918	Lot63	4/4/23	NO	A Large dead stack (within 10m of DMS1093), with two hollows, the lower is a small hollow with abandoned duck eggs, the upper hollow is a very large (50-60cm dia) well used hollow with one small piece of egg shell (galah, Corella, Nankeen Kestrel) with numerous large splits in the hollow wall at the floor level, allowing the elements to effect the hollow floor, and also making it susceptible to predation. The tree is unstable, and top hollow will break away very soon, due to the large splits and the thin hollow walls. The lower hollow floor is uneven and is only 23cm at its largest point and neither are suitable for Black Cockatoos



## Natural DMS1093



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
399477	6408591	Dead	2	500	DMS1093	Lot63	4/4/23	Possible	A large unstable dead stack. Two hollows were identified by BCE, however only one of them is suitable for cockatoos. This hollow has Galah feathers and owl scats and has a tight opening/entry into the hollow. The hollows floor is small and not of a size generally used by Black Cockatoos. This hollow is rated as potential, however unlikely to be used due to its size.



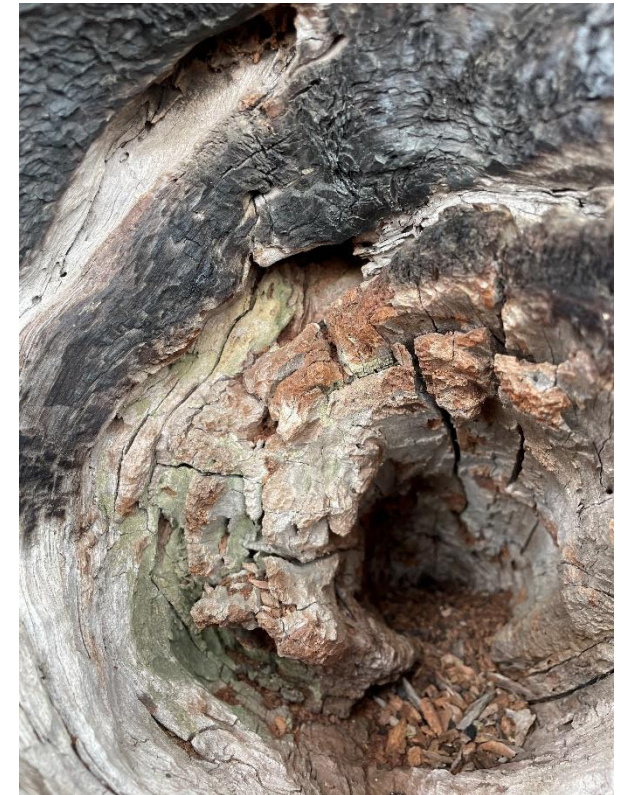
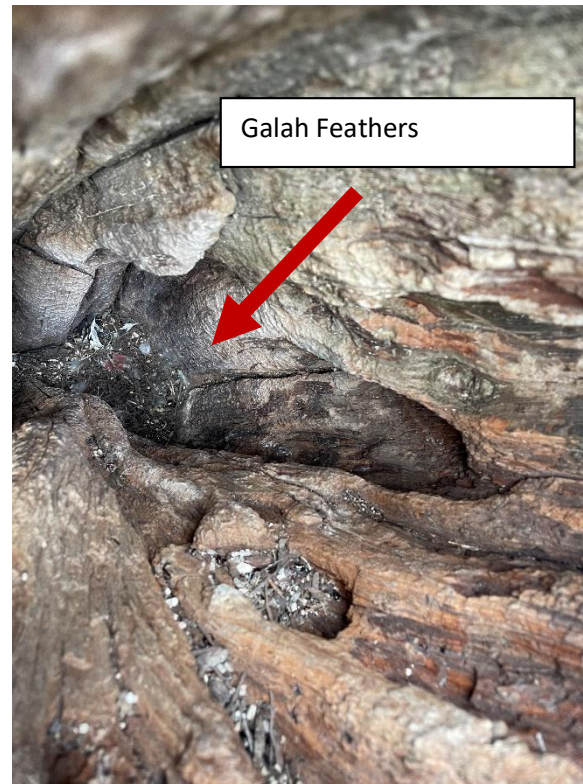
# Natural Hollow DMS1096



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398607	6408256	Dead	2	970	DMS1096	Lot63	4/4/23	<b>NO</b>	This tree is a medium size dead stack with no useable hollows. There are two small depressions (not hollows) in the main tube however they are only a few centimetres deep and not viable.



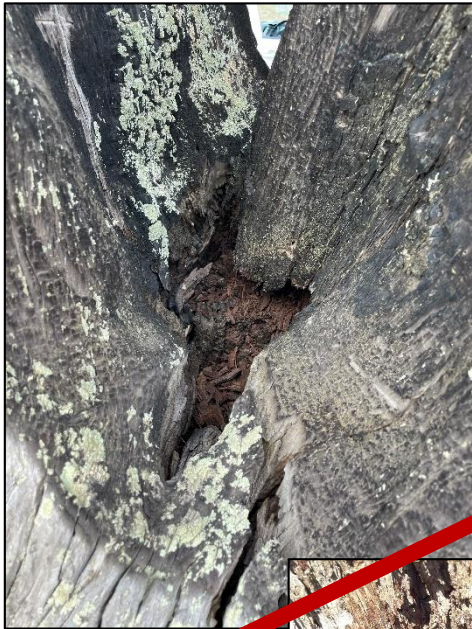
# Natural Hollow DMS1095



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398825	6408374	Dead	2	740	DMS1095	Lot63	4/4/23	<b>NO</b>	Is a tall unstable dead stag with small trunks, the two hollows identified by BCE are too small for Black Cockatoos, and due to the trunk size they have no potential to become so in the future. The larger of the two small hollows has Galah feathers on the floor. The other is not big enough even for small parrots.



## Natural Hollow DMS1097

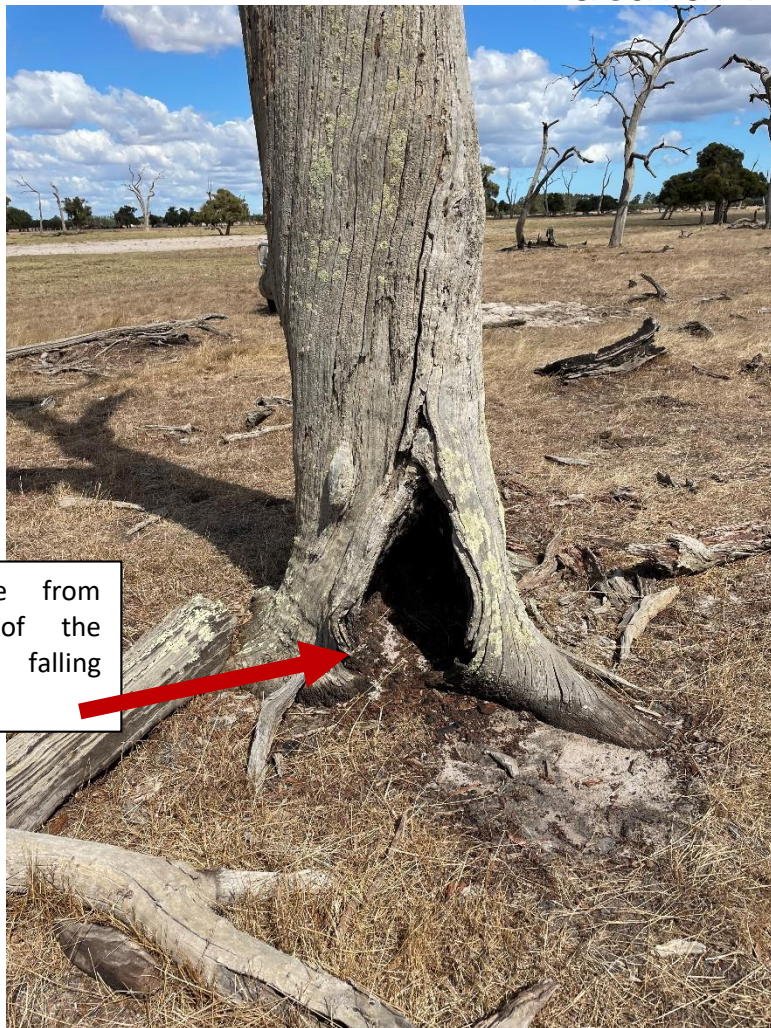


Horizontal hollow exposed to the elements, high faeces load consistent with use by Nankeen Kestrel.

East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
399297	6408561	Dead	6	700	DMS1097	Lot63	4/4/23	<b>NO</b>	Is a large unstable dead stag, that BCE identified to have six (6) potential hollows, all six (6) are very shallow and not large enough for Black cockatoos to nest in.



## Natural Hollow DMS919



Substrate from  
inside of the  
hollow falling  
through.



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
399477	6408591	Dead	2	500	DMS919	Lot63	4/4/23	<b>NO</b>	This tree is a medium size dead stack with two small shallow hollows that are not suitable for use by Black Cockatoos.



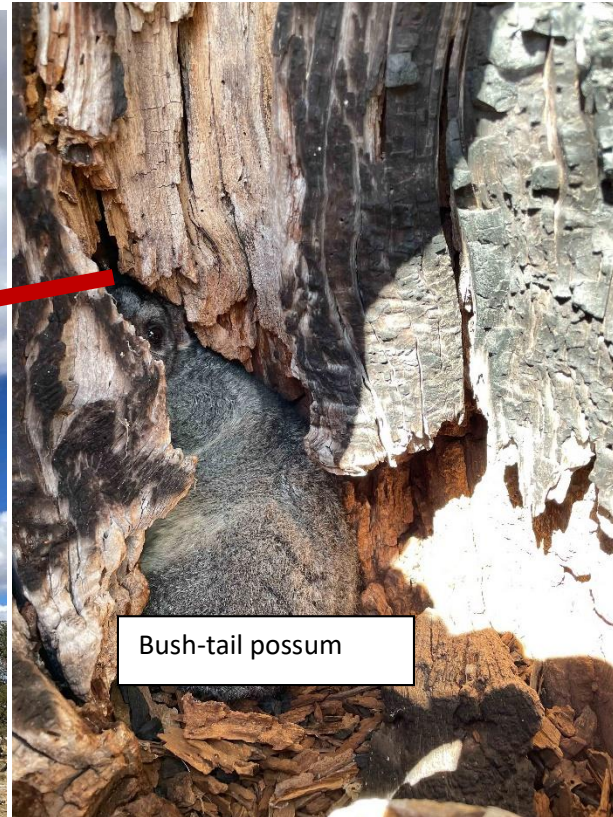
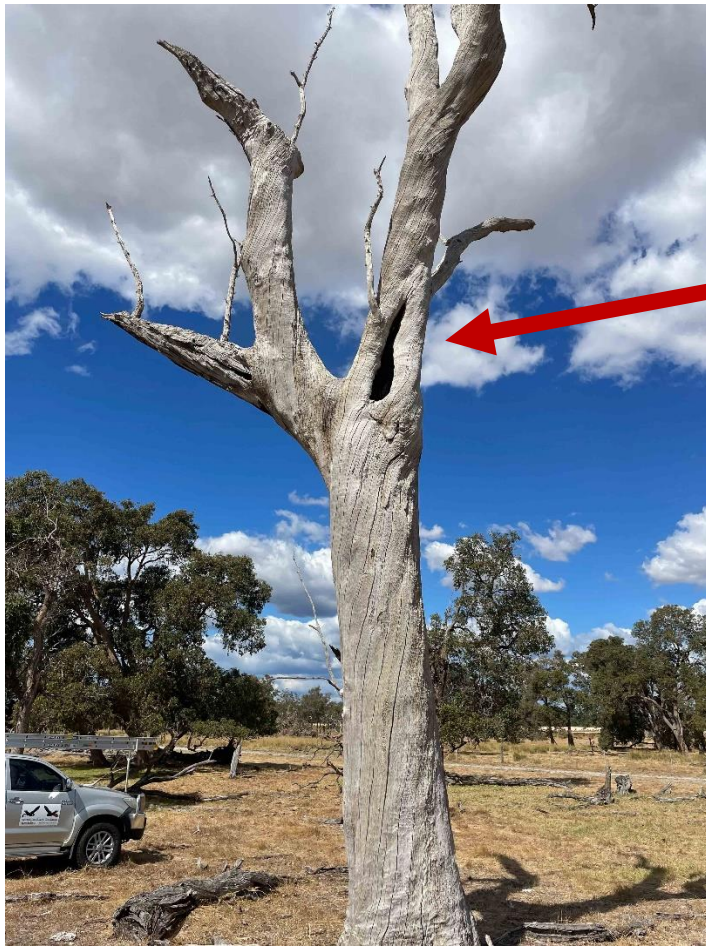
## Natural Hollow DMS1099



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
399459	6408426	Dead	3	480	DMS1099	Lot63	4/4/23	<b>NO</b>	A small unstable dead stack, that BCE identified to have two potential hollows both are very shallow and small and not large enough for Black Cockatoos to nest in. The larger of the two hollows (see photo) has signs of nesting by Ring Neck Parrots.



# Natural Hollow DMS1104



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398087	6407052	Dead	2	780	DMS1104	Lot63	4/4/23	<b>NO</b>	A large dead stack. Two hollows were identified by BCE. Both were shallow and not suitable for Black Cockatoos. The lower and larger of the two had a Brush-tailed Possum in it.



# Natural Hollow DMS1108



Tapered  
hollow

East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398053	6407109	Dead	3	770	DMS1108	Lot63	4/4/23	<b>NO</b>	Very unstable medium stag, dangerous and unable to climb, however used Pole camera, three hollows were identified by BCE. All three unsuitable for Black cockatoos. The largest of them is approximately 20cm in diameter and deep and tappers quickly out of view



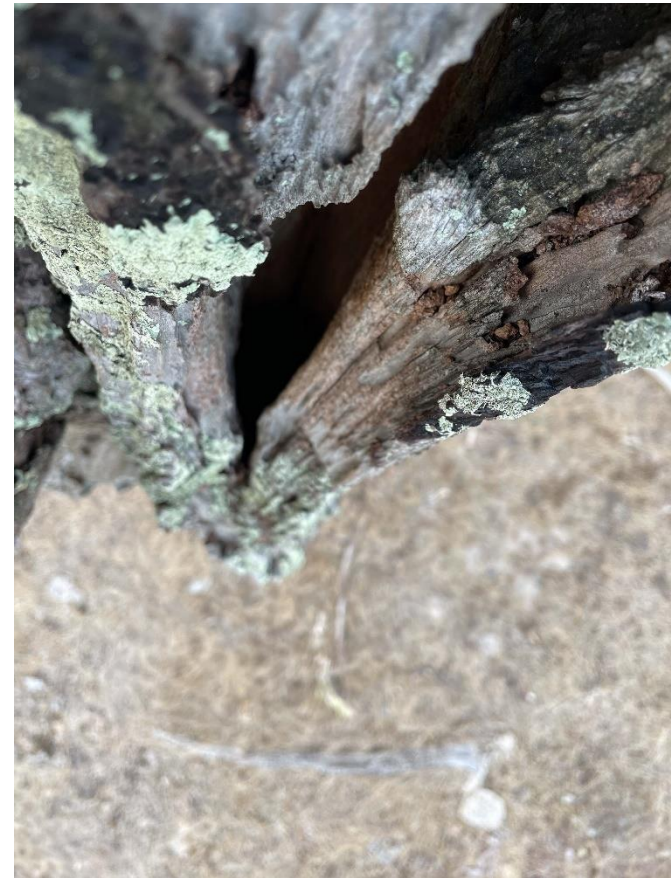
# Natural Hollow DMS1109



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398055	6407106	Dead	1	620	DMS1108	Lot63	4/4/23	<b>NO</b>	Very unstable medium stag, with no hollows that are suitable for use by Black Cockatoos.



## Natural Hollow DMS1110



East	Northing	Status of tree	Potential hollows	DBH_mm	DMS_ID	Lot No	Date	Suitable	Comment/ Assessment
398040	6407100	Dead	1	740	DMS1110	Lot63	4/4/23	<b>NO</b>	Medium stag stack with no hollows that are suitable for use by Black Cockatoos.

**Annex 3: Maps of the locations of the 11 hollows inspected and the route taken.**

