

Year 2 Koala Monthly Monitoring and Tracking Report

Koala Monitoring Program, Yarrabilba PDA

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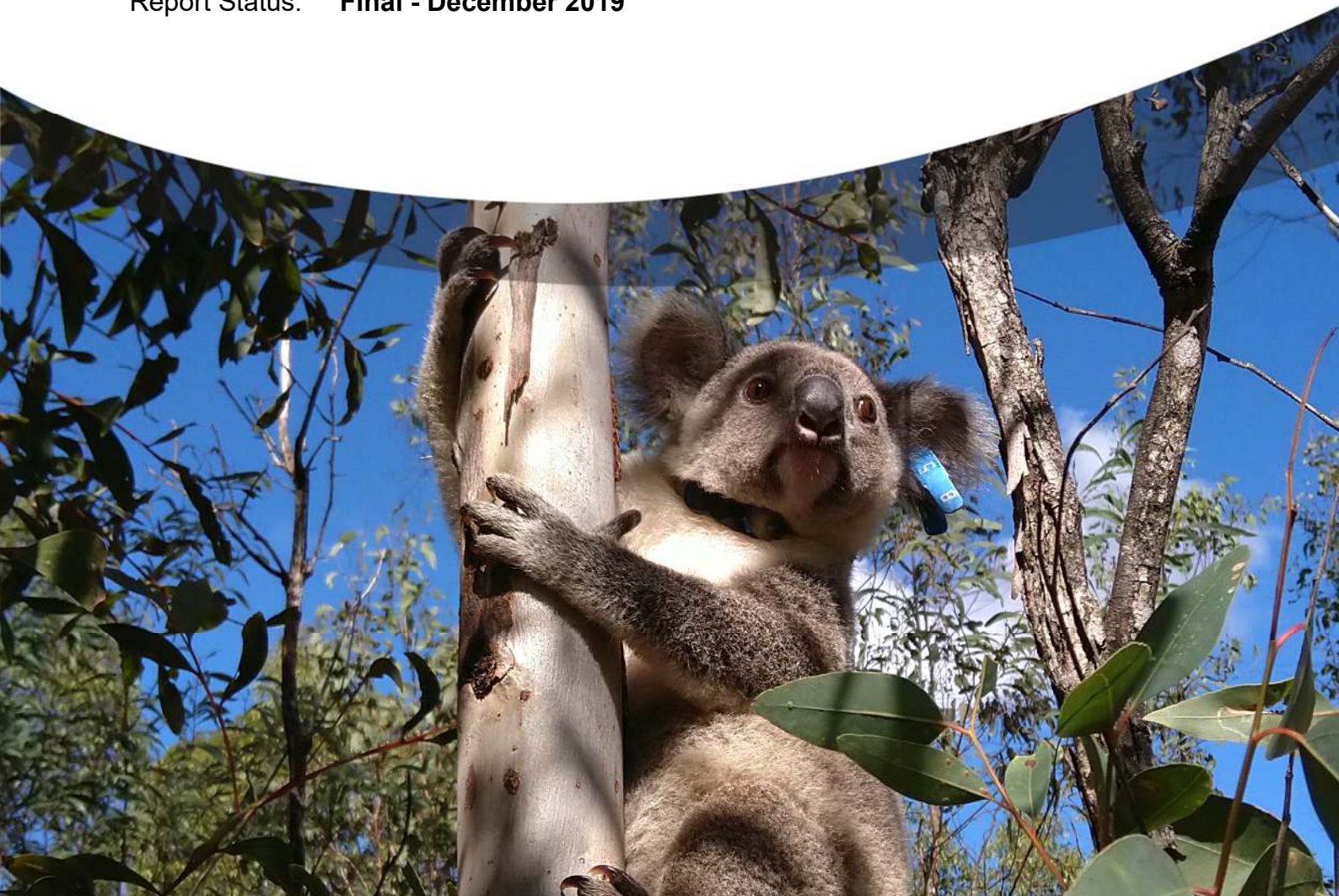


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Cover Photograph – Kevin (August 2019), UQ Koala Ecology Group

1. Introduction

A *Koala Monitoring Program*¹ has been developed collaboratively between Austecology, University of Queensland's Koala Ecology Group, and Professor Frank Carrick to ensure a robust, scientific, research program to comply with Condition 1b of the EPBC 2013/6791 Approval. The aims of the *Koala Monitoring Program* cover detailed investigations into the ecology, health, and population characteristics of koalas on the site.

In summary, the *Koala Monitoring Program* (KMP) comprises a field program extending over a 3-year period – September 2017 to October 2021, and includes the implementation of three field investigation streams, being:

1. The capture of koalas for the purpose of health assessments and to tag and / or attach monitoring collars in order to assess home range, dispersal into and out of the site, and habitat use. This work includes laboratory analyses of swabs taken from captured koalas in order to assess koala health, and genetic diversity of koalas on the site.
2. A monthly program of fieldwork to radio-track koalas in order to visually assess koala condition and collect information on tree species usage.
3. Bi-annual systematic surveys across the site to investigate koala abundance and distribution.

This report presents the results of the 2019 monthly program of fieldwork to radio-track koalas across the site.

2. Field Methodology

The aim of each event was to track collared koalas in order to assess health condition and collect information on tree species usage. Each event was implemented by one to two biologists, using a Yagi 151MHz antenna and Australis 26K receiver scanner to track Koalas, and binoculars to assess animal condition and ancillary information such as the presence of joeys with their mothers. Notes were made of each observation.

An event was scheduled, and implemented during each month from December 2017 through until mid-December 2019. Non-scheduled events were also implemented to investigate low/nil movement data for an individual Koala detected as part of the daily assessment of 12-hourly updates via the web-based LX System². As part of these non-scheduled events, other Koalas were tracked.

During the field work, observations of other Koalas (previously ear-tagged and/ or collared) were recorded to augment the data for the program.

There were no site access constraints which were considered to have any material impact to the success of either survey.

¹ Austecology (2017). Koala Monitoring Program Yarrabilba UDA. Report prepared by Lindsay Agnew (Austecology) and Bill Ellis (University of Queensland's Koala Ecology Group).

3. Results and Observations

The program provided a total of 21 tracking events between early-December 2018 and early-December 2019. **Attachment A** provides a summary of the monitoring and tracking results.

A total of 71 observational records were collected, and providing data for 15 adult Koalas. This included observations of five females and their joeys.

Koalas observed were (in no particular order): Zara (and joey); Meghan; Kevin; Scarlet (and joey); Cain; Bomber; Lindsay; Heath; Nyunga; Jean (and joey); Kobe; Sue-Bob (and joey); Lucky; Lilly (and joey); and Millie Mae.

Koalas were observed in eight different tree species, including the introduced *Pinus radiata*. The results highlight that Koalas were commonly observed within two species of tree, i.e. *Eucalyptus moluccana* (32% of data) or *E. tereticornis* (24% of the data). Koalas were also recorded within *E. major*, *E. crebra*, *E. drepanophylla*, *Corymbia intermedia*, and *Melaleuca quinquenervia*.

Pinus radiata, a legacy of former silviculture operations, accounted for 17% of the tree data. This pine is progressively being removed from the site a part of the on-going site-wide rehabilitation program.

The above results are similar to the findings of Year 1 monitoring and tracking², with records from both *E. moluccana* and *E. tereticornis* accounting for over half of the tree data, with records of Koalas within the introduced *Pinus radiata* representing approximately 13% of the data.

The data also indicates that Koalas were more commonly encountered in trees with a trunk characteristic of >30cm DBH (85% of the data)³. In contrast, two Koalas, Kevin, and in particular, Sue-Bob, appeared to be found in smaller trees (<30cm DBH) which is characteristic of the tree size class within the area both frequented the most throughout the year, i.e. eucalypt regrowth.

² Austecology (2018). Summary of 2018 Koala Monitoring and Site-wide Survey Events_Yarrabilba.

³ In 2018, data demonstrated that Koalas were more commonly encountered in trees with a trunk characteristic of >30cm DBH (74% of the data) – see Austecology (2018).

Attachment A Summary of Koala Monitoring and Tracking Records

Date	Koala	Gender	Tree species	Tree character	Health Appearance	Comments	Easting	Northing
2/12/2018	Zara	F	<i>E. moluccana</i>	>30cm DBH	Eyes & rump appear clean.		510233.00 m E	6923830.00 m S
2/12/2018	Scarlet	F	<i>E. moluccana</i>	>30cm DBH	Eyes & rump appear clean.	Juvenile in nearby tree	510414.00 m E	6923501.00 m S
5/12/2018	Jean	F	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		510869.00 m E	6923264.00 m S
5/12/2018	Cain	M	<i>Pinus radiata</i>	>30cm DBH	Eyes & rump appear clean.		510120.00 m E	6923862.00 m S
6/12/2018	Lindsay	M	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		510956.00 m E	6923121.00 m S
3/02/2019	Zara	F	<i>E. moluccana</i>	>30cm DBH	Eyes & rump appear clean.	with joey.	510300.26 m E	6923723.36 m S
4/02/2019	Jean	F	<i>Pinus radiata</i>	>40cm DBH	Eyes & rump appear clean.	with joey.	511360.00 m E	6923177.00 m S
4/02/2019	Zara	F	<i>E. moluccana</i>	>30cm DBH	Eyes & rump appear clean.	with joey.	510139.00 m E	6923793.00 m S
5/02/2019	Jean	F	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		511432.00 m E	6923157.00 m S
12/02/2019	Sue-Bob	F	<i>E. moluccana</i>	<20cm DBH	Fair condition	with joey nearby.	510270.04 m E	6923637.35 m S
12/02/2019	Lindsay	M	<i>Pinus radiata</i>	>30cm DBH	Eyes & rump appear clean.		510774.00 m E	6923034.00 m S
14/02/2019	Zara	F	<i>Pinus radiata</i>	>30cm DBH		very difficult to gain a good view	510103.00 m E	6923831.00 m S
18/02/2019	Lindsay	M	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		510774.00 m E	6923034.00 m S
20/02/2019	Lindsay	M	<i>E. major</i>	<20cm DBH	Eyes & rump appear clean.		510774.00 m E	6923034.00 m S
20/02/2019	Jean	F	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.	in miseltoe; difficult views	510869.00 m E	6923264.00 m S
21/02/2019	Cain	M	<i>Pinus radiata</i>	>30cm DBH		very difficult to gain a good view	510085.00 m E	6923831.00 m S
21/02/2019	Lindsay	M	<i>Pinus radiata</i>	>30cm DBH		very difficult to gain a good view	511087.00 m E	6923057.00 m S
21/02/2019	Sue-Bob	F	<i>E. moluccana</i>	>20cm DBH	Poor condition.	No sign of joey.	510097.00 m E	6923773.00 m S
21/02/2019	Jean	F	<i>Pinus radiata</i>	>40cm DBH		very difficult to gain a good view	511294.89 m E	6923294.60 m S
25/03/2019	Bomber	M	<i>E. major</i>	>30cm DBH	Eyes & rump appear clean.		510452.00 m E	6923439.00 m S
25/03/2019	Kevin	M	<i>E. moluccana</i>	>30cm DBH	Eyes & rump appear clean.		510319.62 m E	6923783.20 m S
25/03/2019	Scarlet	F	<i>E. crebra</i>	>30cm DBH	Eyes & rump appear clean.		510516.14 m E	6923477.59 m S
25/03/2019	Lindsay	M	<i>C. intermedia</i>	>30cm DBH	Eyes & rump appear clean.		511288.87 m E	6923214.15 m S
25/03/2019	Meghan	F	<i>M. quinquenervia</i>	>20cm DBH	Rump appeared stained	very difficult to gain a good view	510346.80 m E	6922759.07 m S
5/04/2019	Zara	F	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		510248.00 m E	6923766.00 m S
5/04/2019	Kevin	M	<i>E. moluccana</i>	>20cm DBH	Eyes & rump appear clean.		510237.00 m E	6923707.00 m S
5/04/2019	Cain	M	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.		510445.00 m E	6923649.00 m S
5/04/2019	Jean	F	<i>E. crebra</i>	>40cm DBH	Eyes & rump appear clean.		510764.00 m E	6923640.00 m S

Date	Koala	Gender	Tree species	Tree character	Health Appearance	Comments	Easting	Northing
5/04/2019	Lindsay	M	<i>E. drepanophylla</i>	>40cm DBH	Eyes & rump appear clean.		511237.00 m E	6923341.00 m S
5/04/2019	Meghan	F	<i>E. major</i>	>30cm DBH	Rump appeared stained		510581.65 m E	6922799.48 m S
5/04/2019	Sue-Bob	F	<i>E. moluccana</i>	<20cm DBH	Poor condition.	some staining of rump	510257.50 m E	6923649.88 m S
10/05/2019	Kevin	M	<i>E. moluccana</i>	<20cm DBH	Eyes & rump appear clean.		510297.00 m E	6923690.00 m S
10/05/2019	Scarlet	F	<i>E. crebra</i>	>30cm DBH	Eyes & rump appear clean.		510627.60 m E	6923490.38 m S
10/05/2019	Cain	M	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.		510327.97 m E	6923397.25 m S
10/05/2019	Bomber	M	<i>Pinus radiata</i>	>30cm DBH	Eyes & rump appear clean.	very difficult to gain a good view	510348.07 m E	6923546.53 m S
10/05/2019	Lindsay	M	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		511339.74 m E	6923144.82 m S
10/05/2019	Heath	M	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		510789.34 m E	6923063.08 m S
10/05/2019	Kevin	M	<i>E. moluccana</i>	<20cm DBH	Eyes & rump appear clean.		510343.93 m E	6923821.41 m S
10/05/2019	Nyunga	F	<i>E. moluccana</i>	>20cm DBH	Eyes & rump appear clean.		511401.02 m E	6923135.40 m S
23/06/2019	Cain	M	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.		510240.06 m E	6923484.11 m S
23/06/2019	Heath	M	<i>E. major</i>	>30cm DBH	Eyes & rump appear clean.		510541.24 m E	6922712.45 m S
23/06/2019	Jean	F	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		510678.51 m E	6923657.06 m S
23/06/2019	Kobe	F	<i>Pinus radiata</i>	>30cm DBH		very difficult to gain a good view	511398.43 m E	6923347.39 m S
23/06/2019	Sue-Bob	F	<i>E. moluccana</i>	<20cm DBH	Poor condition.		510285.46 m E	6923710.42 m S
22/07/2019	Heath	M	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		510655.13 m E	6922882.43 m S
22/07/2019	Jean	F	<i>Pinus radiata</i>	>30cm DBH	Eyes & rump appear clean.	very difficult to gain a good view	510564.06 m E	6923778.86 m S
22/07/2019	Nyunga	F	<i>Pinus radiata</i>	>30cm DBH	Eyes & rump appear clean.		511174.06 m E	6923373.22 m S
22/07/2019	Kevin	M	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		509941.08 m E	6923827.88 m S
22/07/2019	Cain	M	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.		510411.43 m E	6923766.92 m S
22/07/2019	Bomber	M	<i>Pinus radiata</i>	>30cm DBH	Eyes & rump appear clean.		510880.93 m E	6923458.22 m S
22/07/2019	Lucky	M	<i>E. major</i>	>30cm DBH	Eyes & rump appear clean.		510769.29 m E	6923069.39 m S
14/08/2019	Zara	F	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.		510282.82 m E	6923840.24 m S
14/08/2019	Lucky	M	<i>C. intermedia</i>	>30cm DBH	Eyes & rump appear clean.		510470.93 m E	6923809.67 m S
14/08/2019	Cain	M	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.		510601.33 m E	6923699.28 m S
14/08/2019	Scarlet	F	<i>E. crebra</i>	>40cm DBH	Eyes & rump appear clean.	with joey	510558.28 m E	6923463.38 m S
14/08/2019	Heath	M	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		510735.17 m E	6923020.13 m S
14/08/2019	Lindsay	M	<i>E. drepanophylla</i>	>40cm DBH	Eyes & rump appear clean.		511355.77 m E	6923152.49 m S
19/09/2019	Kevin	M	<i>E. moluccana</i>	>20cm DBH	Eyes & rump appear clean.		510230.46 m E	6923789.59 m S
19/09/2019	Cain	M	<i>E. drepanophylla</i>	>40cm DBH	Eyes & rump appear clean.		510285.61 m E	6923529.63 m S

Date	Koala	Gender	Tree species	Tree character	Health Appearance	Comments	Easting	Northing
19/09/2019	Scarlet	F	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.	with joey	510363.78 m E	6923468.93 m S
19/09/2019	Jean	F	<i>E. moluccana</i>	>40cm DBH	Eyes & rump appear clean.	with joey	510731.10 m E	6923579.71 m S
19/09/2019	Nyunga	F	<i>M. quinquenervia</i>	>20cm DBH	Eyes & rump appear clean.		511447.50 m E	6923315.65 m S
19/09/2019	Heath	M	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		510568.74 m E	6922834.75 m S
15/10/2019	Nyunga	F	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.		511437.09 m E	6923138.21 m S
15/10/2019	Kevin	M	<i>E. moluccana</i>	>20cm DBH	Eyes & rump appear clean.		510002.11 m E	6923821.30 m S
15/10/2019	Scarlet	F	<i>E. crebra</i>	>30cm DBH	Eyes & rump appear clean.	with joey	510378.02 m E	6923439.72 m S
21/11/2019	Kevin	M	<i>E. tereticornis</i>	>30cm DBH	Eyes & rump appear clean.	moved off-site	511208.39 m E	6920084.06 m S
9/12/2019	Bomber	M	<i>E. tereticornis</i>	>40cm DBH	Eyes & rump appear clean.		510684.11m E	6923620.22m S
9/12/2019	Lilly	F	<i>E. major</i>	>30cm DBH	Eyes & rump appear clean.		510804.31m E	6922450.71m S
9/12/2019	Millie Mae	F	<i>E. tereticornis</i>	>20cm DBH	Eyes & rump appear clean.		509659.12m E	6923928.06m S
9/12/2019	Nyunga	F	<i>E. drepanophylla</i>	>30cm DBH	Eyes & rump appear clean.		511186.35m E	6923404.22m S