# Koala Monitoring Program

## Yarrabilba Priority Development Area

### Koala Capture / Monitoring Event, July 2023

### Summary Report

Image of female koala ‘Ella’ being released in the Quinzeh Creek vegetation corridor.
July 2023 Koala Capture / Monitoring Event.

## Introduction

This report presents the latest findings from the Koala Monitoring Program that has been implemented for the Yarrabilba Priority Development Area in partnership with Austecology. The Koala Monitoring Program has been developed to monitor koala health and use of koala habitat offsets under the Commonwealth's EPBC 2013/6791 Approval.

The *Koala Monitoring Program* comprises three key elements:

1. ***Koala Capture / Monitoring Events*** - This component of the program will involve fieldwork to catch, examine and tag selected koalas for monitoring purposes.
2. ***Koala Monitoring Events*** - This component is designed to track and establish the location of collared koalas in order to visually assess their well-being (using binoculars) as well as their tree use preferences.
3. ***Koala Population Survey Events*** – This component will provide a series of systematic transect searches throughout the full extent of the designated "Fauna Corridor", and the seven EPBCA Offset Areas.

During July 2023, our research team conducted the final *Koala Capture / Monitoring Event* at the Yarrabilba site. The aims of the fieldtrip were to 1. Recapture koalas still fitted with transmitters to check their health and remove the collars, and 2. Remove the LX remote monitoring system, comprising two solar-powered base stations installed up trees at the study site. This report summarises the main findings from the July 2023 koala capture/monitoring event.

## Methodology

The koala monitoring event occurred from the 17 – 19 July 2023. The research team comprised three personnel from the Koala Ecology Group (Ben Barth, Bill Ellis, and Sean FitzGibbon).

At the start of the fieldtrip, two koalas (Ella, Douglas) were fitted with LX collars and identified for recapture. Capture attempts were made using previously described methods. Koalas were caught using the "flagging" method, whereby a tree climber and a ground support team (2 ppl) use extendable poles with plastic bags on the end, to encourage the koala to descend.

Captured koalas were restrained in a cloth bag in a cool location and processed at the site. Processing took approximately 30-45mins per animal, during which time the koala was briefly anaesthetised (3-5mins) to facilitate a basic health examination and the collection of body measurements, as well as eye and urogenital swabs for disease testing. Measurements included body weight, head length and width, testes width (males), and an assessment of tooth wear (to age the koala) and body condition. After processing, captured koalas were allowed sufficient resting time to fully recover from anaesthesia before being released in the same tree from which they were captured.

## Results & Discussion

During the fieldtrip, the two target koalas (Ella and Douglas) were radio-tracked and located (Figure 5). Both koalas were recaptured so that their health could be assessed and the tracking collars removed.

### *Ella (13564)*

This female koala was first captured and tagged during April 2021, when she was estimated to be between 3-6 years old.  At that time, she had a large, semi-independent offspring.

Ella was recaptured in July 2022 and examined. She weighed 5.8kg and her physical examination suggested she was in good health (body score 7/10). She had no signs of chlamydial infection, and her pouch was empty.

During the recent fieldtrip, Ella was recaptured from an ironbark within the Quinzeh Creek vegetation corridor, north of the main Yarrabilba study site. Uploads from Ella's GPS collar revealed she made extensive use of the corridor lining Quinzeh Creek north of the powerline easement, over a period of many months. Ella was originally caught at the main study site and remained in that area for several months, but later undertook large exploratory movements and a home range shift. Her GPS collar uploads suggest that she had settled in the area where she was recaptured. The area contained high-quality koala habitat with a diversity of preferred food trees.

Figure 1. Female 13564 'Ella' in a catch bag, after recapture for collar removal.

Ella was captured using the flagging technique and calmly descended the occupied tree. Ella appeared to be in good condition (body score 7). Her pouch was empty and she had no visually obvious signs of disease (eyes and rump were clear).

Ella was briefly anaesthetised so that swabs could be collected from each eye and her urogenital sinus. These swabs were sent for laboratory PCR analysis. All swabs later returned negative test results, indicating that no *Chlamydia* DNA was detected.

After her examination, Ella was allowed sufficient time to recover from anaesthesia. We removed the collar from Ella prior to her release at the point of capture.

Figure 2. Dr Bill Ellis releasing female 13564 'Ella' in the Quinzeh Ck corridor, July 2023.

### *Douglas (13373)*

This male koala was first captured in November 2022, from habitat adjacent to the powerline easement (southern side). He weighed 5.8kg and was in poor condition (body score 4/10). It was immediately apparent that Douglas had an infection in his left eye, which appeared weepy and had crusty exudate around the eyelid. He was taken immediately to Australia Zoo Wildlife Hospital (AZWH) for treatment.

Detailed veterinary examination revealed that Douglas had further health issues, including the formation of pustules around his prostate. He was put on a course of antibiotics and required an extended period of treatment to resolve his health issues. He was eventually cleared for release by the AZWH veterinary team in early January 2023 and was returned to the Yarrabilba study site.

Figure 3. Male koala 13373 'Douglas' at the end of his treatment at Australia Zoo Wildlife Hospital, just prior to being returned to the Yarrabilba study site. Note, the shaved area on his forearm facilitated blood collection and administration of medicines and fluids.

During the recent fieldtrip, Douglas was recaptured from a spotted gum near to his original capture location. He appeared to be in good health (body score 7) and showed no signs of disease. His collar was removed.

Douglas was briefly anaesthetised so that swabs could be collected for determining chlamydial infection status. Swabs were sent for laboratory PCR analysis and all returned negative test results, indicating that no *Chlamydia* DNA was detected.

After his examination, Douglas was allowed sufficient time to recover from anaesthesia and was then released at the point of capture.

Figure 4. Dr Ben Barth with male koala 13373 'Douglas' at his final recapture to remove the tracking collar.

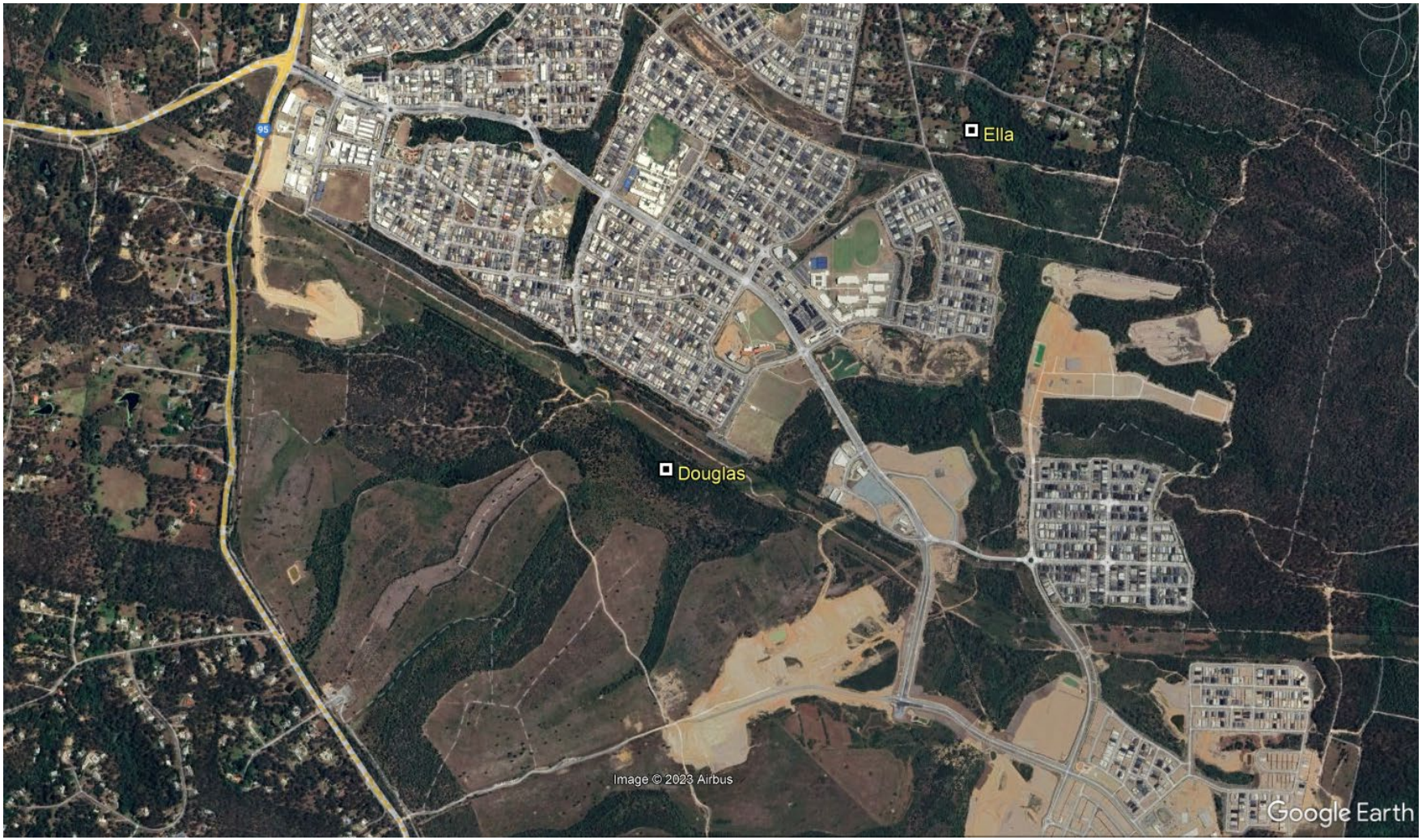


Figure 5. Plot of the location of male koala ‘Douglas’ and female koala ‘Ella’, both of which were recaptured during the July 2023 fieldtrip.

## Conclusion

The *Koala Capture / Monitoring Event* conducted during July 2023 was the final event under the modified Koala Monitoring Program. The following points summarise what was achieved:

- Two collars were still deployed on koalas at the start of the fieldtrip. Both of these koalas (Douglas and Ella) were recaptured, given a basic health examination, and had their collars removed.
- The two LX solar-powered base stations were retrieved from the large eucalypts they were mounted in.
- Final searches were made for the two young koalas (Miso and Brumby) that had been fitted with VHF collars. No collar signals could be detected.
- At the end of the July 2023 fieldtrip, no koalas were still fitted with LX tracking collars.
- A total of 31 koalas were tagged during the koala monitoring program (Appendix 1).

Figure 6. Dr Sean FitzGibbon dismantling one of the solar-powered base stations at the Yarrabilba study site.

Appendix 1. Summary details for all koalas captured up to July 2023.

| UQ # | Name | Sex | Mass | Age 1st capture | Left ear tag | Right ear tag | 1st Capture | Latitude | Longitude | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 13007 | Heath | M | 3.83 | 2+ | Orange F10 | Yellow H10 | 17/05/2017 | -27.8113490 | 153.1062150 | Previously taken to AZWH; later euthanised. |
| 13009 | Caitlin | F | 5.92 | 4 | Pink 866 | Yellow H6 | 18/05/2017 | -27.8219730 | 153.1313310 | Unsighted since first capture. |
| 13008 | Bomber | M | 9.28 | 5-10 | Light Blue 621 | Pink 886 | 18/05/2017 | -27.8121970 | 153.1072190 | |
| 13486 | Jean | F | 5.56 | 3-6 | metal UQ800 | Orange F15 | 9/10/2017 | -27.8121559 | 153.1086764 | Deceased; found decomposed carcass & ear tag (Feb'22). |
| 13487 | Emily | F | 1.07 | 1 | metal UQ724 | metal UQ789 | 9/10/2017 | -27.8121559 | 153.1086764 | |
| 13488 | Cain | M | 8.07 | 2-4 | - | metal UQ796 & yellow front / red back | 9/10/2017 | -27.8132431 | 153.1039776 | |
| 13489 | Scarlet | F | 4.81 | 1-3 | metal UQ753 | Royal Blue G14 | 10/10/2017 | -27.8110978 | 153.1049627 | |
| 13490 | Sue-Bob | F | 5.66 | 5-10 | metal UQ799 | Orange F20 | 10/10/2017 | -27.8122096 | 153.1063710 | Unsighted since de-collared March 2019. |
| 13495 | Kobe | F | 5.06 | 3-6 | metal UQ175 | Yellow C20 | 20/03/2018 | -27.8137242 | 153.1169157 | Previously taken to AZWH; euthanised August 2018. |
| 13304 | Zara | F | 6.17 | 5-10 | Maroon A16 front / Green Q18 back | Yellow C4 | 6/06/2018 | -27.8097031 | 153.1034546 | |
| 13497 | Lindsay | M | 5.8 | 2-4 | Yellow C10 | metal UQ958 | 10/10/2018 | -27.8170122 | 153.1096012 | |
| 12341 | Kevin | M | 2.15 | 1-2 | Light Blue B5 | Metal UQ991 | 4/03/2019 | -27.811086 | 153.104432 | Unsighted; presume has dispersed off site beyond tracking detection limits. |
| 12342 | Meghan | F | 5.02 | 3-6 | Metal UQ965 | Light Blue B3 | 5/03/2019 | -27.818168 | 153.108581 | Unsighted since first capture. |
| 13508 | Lucky | M | 7.4 | 2-4 | Yellow C19 | Maroon A19 | 27/05/2019 | -27.809771 | 153.103803 | |

| UQ # | Name | Sex | Mass | Age 1st capture | Left ear tag | Right ear tag | 1st Capture | Latitude | Longitude | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 13509 | Nyunga | F | 3.24 | 1-2 | Metal UQ955 | White T7 | 28/05/2019 | -27.815716 | 153.115121 | |
| 13518 | Marlee | F | not weighed | <1 | Metal UQ118 | - | 1/08/2019 | -27.812705 | 153.108693 | |
| 13307 | Lilly | F | 5.55 | 4-8 | Green E9 | White T3 | 19/11/2019 | -27.823554 | 153.108909 | Deceased; carcass radio-tracked April 2020. Cause of death uncertain. |
| 13308 | Wooten | M | 1.40 | <1 | UQ170 & Blue B19 | - | 20/11/2019 | -27.823554 | 153.108909 | Deceased off-site; reported by RSPCA 2022. |
| 13533 | Millie-Mae | F | 7.26 | 4-8 | Metal UQ158 | Green Q18 | 21/11/2019 | -27.8094187 | 153.0999413 | |
| 13557 | Kamala | F | 2.47 | 1 | Metal UQ940 | Green Q12 | 10/11/2020 | -27.81368903 | 153.1133787 | |
| 13269 | Bilba | F | 2.08 | 1 | Metal UQ329 | Blue B13 | 10/11/2020 | -27.81070544 | 153.1030701 | Dispersed off-site mid-2022. |
| 13558 | Gladys | F | 4.93 | 2-4 | Metal UQ939 | Maroon A2 | 11/11/2020 | -27.81102459 | 153.1056022 | |
| 13564 | Ella | F | 5.23 | 3-6 | Metal UQ934 | Orange (no #) | 19/04/2021 | -27.811320 | 153.106273 | |
| 13565 | Banjo | M | 2.54 | 1 | Maroon A3 | Metal UQ987 | 20/04/2021 | -27.810577 | 153.103908 | |
| 13316 | Jana | F | 5.28 | 5-10 | Metal UQ114 | Light Blue B16 | 21/04/2021 | -27.815245 | 153.110754 | |
| 13328 | Amelia | F | 0.74 | <1 | Metal UQ917 | - | 22/11/2021 | -27.811498 | 153.104591 | |
| 13334 | Clancy | M | 5.55 | 2-4 | Brown I12 | UQ534 | 14/02/2022 | -27.81277532 | 153.1013763 | |

| UQ # | Name | Sex | Mass | Age 1st capture | Left ear tag | Right ear tag | 1st Capture | Latitude | Longitude | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 13332 | Miso | F | 3.09 | 1-3 | Metal UQ916 | Orange (no #) | 15/02/2022 | -27.81167394 | 153.1033398 | Unsighted since fitted with VHF-only collar (Feb 2022). Unable to detect VHF signal. |
| 13333 | Larabee | M | 4.12 | 2-3 | Orange front / light blue back | Metal UQ952 | 16/02/2022 | -27.81109974 | 153.1037605 | |
| 13354 | Brumby | F | 2.95 | 1-3 | Metal UQ576 | Light blue front / red back (no #) | 12/07/2022 | -27.81174711 | 153.1042724 | Unsighted since fitted with VHF-only collar (July 2022). Unable to detect VHF signal. |
| 13373 | Douglas | M | 5.8 | 2-4 | Red 7894 (AZWH tag) | | 15/11/2022 | -27.816287 | 153.117667 | Released Jan'23 after treatment at AZWH. |