**KOALAS ENDANGERED BY LOGGING - WHAT THE EPA FOUND**

**Dailan Pugh, September 2016**

As part of a project to map Koala habitat the EPA assessed the relationship between Koalas and key variables in 4 State Forests in north-east NSW known to have significant Koala populations. The found that Koalas prefer larger trees and that logging and burning were having a significant impact on Koalas. The EPA's Koala Habitat Mapping pilot report is available at:

<http://www.epa.nsw.gov.au/publications/forestagreements/koala-habitat-mapping-pilot-160038.htm>

While the EPA found that their attempts to map Koala habitat are not working, their most significant finding was (p.iv):

*Areas of higher activity positively correlated with greater abundance and diversity of local koala feed trees, trees and forest structure of a more mature size class, and areas of least disturbance*

Koalas clearly have preferences for larger trees, preferring trees over 30cm dbh, with usage of preferred species increasing linearly with tree size (pp 59-62), i.e. "*the data demonstrates a strong positive relationship between size class and activity, with highest activity in the largest size class*". Koalas and loggers clearly want the same trees.

One example displaying the significant linear increase in Koala usage (as determined by Koala scats (faecal pellets)) with increasing tree size (diameter at breast height):



Koalas also had a clear preference for areas with >50% mature and over mature trees in vicinity (p.62) "*Seventy-four per cent (74%) of all activity resides in the high class of structural maturity*". This reinforces Koalas need for larger trees.



The EPA note (p85):

*The structural component of a forest comprises trees of different size classes, and both size and structural diversity of forests correlates with higher koala occupancy (Lunney et al. 1996; Phillips’ 2013; Smith 2004). This study found koala activity correlated with larger tree size classes and mapped mature forest components of the pilot areas. Smith (2004) found forest structure to be a key predictor of koala scat density after food tree species diversity and abundance, where scat abundance was greatest under trees with a diameter at breast height (dbh) of 40–80 centimetres. Phillips’ (2013) reports similar preferencing for trees >30 centimetres in low fertility areas.*

NEFA stopped logging of Koala High Use Areas in Royal Camp State Forest in 2012 and the resumption of logging in other Koala High Use Areas in 2013. NEFA proposed Royal Camp and the nearby Carwong State Forests be protected for Koalas as the Sandy Creek National Park in 2014. This report verifies that these forests contain significant populations of resident Koalas:

*The activity results and Phillips’ (2013) report both indicate that Royal Camp and Carwong state forests support extensive areas of koala occupancy and habitat utilisation, and that in compartment 13, at least 50% of the habitat is utilised and conforms to optimal utilisation of secondary habitat by a low density population. The project found that 80% of Carwong and 58% of Royal Camp State Forest is utilised, which supports Phillips’ (2013) results. On this basis it can be concluded that habitat in Royal Camp and Carwong is source habitat, where reproduction exceeds mortality on average over time.* (p84)

It is further noted (p86):

*In relative terms, Carwong appeared to be the least disturbed by logging and fire. Having both wildfire and multiple recent logging events absent for approximately 20 years, appears to correlate with overall highest occupancy compared with other pilot areas that have experienced multiple, more recent silviculture treatments. This result aligns with Smith’s (2004) findings that koala prefer areas of least disturbance.*

It is important to recognise that a study of Koalas across the Richmond Valley LGA (Phillips and Weatherstone 2015) identified *"two “Important Populations” as defined for purposes of the Federal Government’s Environmental Protection and Biodiversity Conservation Act 1999",* as "*key source populations for breeding and/or dispersal*", including "*Habitat to the north of Rappville in the general vicinity of Royal Camp and Carwong State Forests and associated lands".* They also found:

*Extent of Occurrence of koalas across the RVLGA has remained relatively unchanged over time. However, further analyses of habitat occupancy rates has indicated a statistically significant decrease over the last 3 koala generations of ~33% in the amount of habitat actually being occupied by koalas. This trajectory, if left unchecked, will lead to increasing endangerment of the RVLGA’s koala populations over coming years.*

It is also important to recognise that the Forestry Corporation is still intending to recommence logging in Royal Camp SF and have logging scheduled to resume in February 2018 (after they change the rules to allow logging in Koala High Use Areas).

Clouds Creek State Forest was selected as a test area by the EPA because it had the most extensive area of potential high quality habitat, - though it was also found to have been severely degraded by logging, resulting in the finding that "*Clouds Creek State Forest has the lowest overall occupancy with only four resident sites and 21 sites where koalas were present, giving an overall occupancy of just 27%"*. While Koalas are still present, logging appears to have had a significant impact, the EPA noting:

*From a field based perspective, Clouds Creek appeared to be the most disturbed from logging and fire and the most recently affected.* ... *The impacts of disturbance events are reflected in the activity data for Clouds Creek, against the context of perceived high quality habitat and potential for moderate to high density population.* (p86)

*Given the SAT results for Clouds Creek and to a lesser extent, Maria River SF, in combination with the degree of habitat disturbance (logging and fire) identified in the field, it would be reasonable to conclude that the high activity areas were sink habitats, as less than 30% total habitat utilisation was recorded, in addition to <5% of resident habitat area recorded.* (p82)

The consultant's report for Cloud's Creek SF *'Koala SAT Pilot Survey and Summary Report– Maria River and Clouds Creek State Forest'* (Fauna Sonics 2015) observed:

*Discussion with other long term locals within this area and off Blue Rock road indicate anecdotal evidence that koala sightings were much more prevalent 20 years ago and have slowly decreased over that time. ...*

*Having spent considerable time in these State Forests looking for koala activity and trying to access the designated sites; increased management activities that is logging, roading and intensive fire activities appear to be having an effect on koala numbers. ...*

*These logging events not only has an immediate impact on koala habitat but an ongoing and prolonged effect through the regeneration phase of the forest until this can stabilise. A stable state however may not be reached under current forest logging activity which has been on increasing shorter logging cycles as industry pressure on supply continues.*