

21 November 2016

Director, Planning Frameworks,
NSW Department of Planning and Environment,
GPO Box 39,
Sydney NSW 2001

Dear Sir/Madam,

Re: Review of State Environmental Planning Policy 44 – Koala Habitat Protection (SEPP 44)

I commend the NSW Government on its decision to update SEPP 44. So much more information is known about the ecology of koalas, and techniques for conducting koala surveys and assessing habitat usage have advanced considerably, since SEPP 44 was first implemented as a planning instrument. The current review provides an opportunity to incorporate this knowledge and these techniques into an updated SEPP 44.

A number of recommendations for the revision of the current version of SEPP 44 are provided below.

Name of Policy

Recommendation:

Insert “*and enhancement*” into the name of the policy so that it becomes:

State Environmental Planning Policy 44 – Koala Habitat Protection and Enhancement.

Rationale:

The aim of SEPP 44 is “*to protect koala habitat to ensure a permanent free-living population over the present range and reverse the current trend of koala population decline.*” Koala plans of management prepared by councils and conditions of approval of development applications have the potential to include the need for improvement (enhancement), as well as protection, of existing koala habitat (e.g. removal of a dense weedy understorey, planting of additional koala food tree species, corridor linkage of two or more isolated areas of koala habitat). The inclusion of “*and enhancement*” in the policy name more accurately reflects a significant part of the policy aim.

Definitions

Core Koala Habitat

The definition of Core Koala Habitat should be amended to include additional attributes that demonstrate that a resident population is present on the land. Therefore, Core Koala Habitat should be defined as:

“... an area of land with a resident population of koalas, as evidenced by attributes such as breeding females (that is, females with young), the presence of koala faecal pellets near the base of one or more tree trunks, and recent sightings of and historical records of a population.”

Potential Koala Habitat

The definition of Potential Koala Habitat should be amended to recognise the importance of native vegetation corridors that link two or more koala habitat areas which, without this link, would be geographically-isolated areas. These links should include vegetated road bridges, as well as treed areas of the landscape, that have not been categorised as Core Koala Habitat. Therefore, Potential Koala Habitat should be defined as:

“areas of native vegetation where the trees listed in Schedule 2 constitute at least 15% of the total number of trees in the upper and lower strata of the tree component, or where the native vegetation forms a corridor link between two or more koala habitat areas that would otherwise be geographically isolated from each other.”

The Guidelines

It is recommended that the following procedures be added to the koala survey and assessment methods that are already in the guidelines for the preparation of and assessment of development applications:

1. Searches for koala faecal pellets around the base of tree trunks, using the Spot Assessment Technique (SPAT) of Phillips and Callaghan (2011) to assess the utilisation of habitat by koalas on the proposed development site.
2. Assessors of development applications should be encouraged to, where possible, send koala fresh faecal pellets found during the koala breeding season (August to February) to an appropriate commercial or university laboratory for analysis of the presence of oestradiol and progesterone metabolites (females) and testosterone metabolites (males).

Oestradiol causes maturation and follicular release of eggs, and thickening of the uterus lining in females. Progesterone prepares the uterus for egg implantation. Metabolites of these two hormones are measurable in faecal pellets of marsupials (e.g. Narayan *et al.* 2013; Paris *et al.* 2002). Faecal pellets containing measurable levels of metabolites of these two hormones would indicate the presence of females in the area that are pregnant with an early-stage embryo or are capable of becoming pregnant.

Male testosterone is also measurable in koala faecal pellets during the breeding season (Kusuda *et al.* 2013; Narayan *et al.* 2013). Faecal pellets containing testosterone levels in the peak range would be an indication of the presence of males in the area that are in reproductive condition.

I believe that my recommendations, together with the amendments to SEPP44 already proposed by the Department of Planning and Environment will lead to better protection and environmental management of Koala habitat in NSW. Therefore, I urge you to give them serious consideration as part of the present review.

Yours sincerely

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References

Kusuda, S., Hashikawa, H., Takeda, M., Ito, H., Goto, A. and Doi, O. (2013). Season- and age-related reproductive changes based on fecal androgen concentrations in male koalas, *Phascolarctos cinereus*. *The Journal of Reproduction and Development*. **59(3)**: 308-313. DOI: [10.1262/jrd.2012-188](https://doi.org/10.1262/jrd.2012-188)

Naraya, E.J., Webster, K., Nicolson, V., Mucci, A. and Hero, J-M. (2013). Non-invasive evaluation of physiological stress in an iconic Australian marsupial: the koala (*Phascolarctos cinereus*). *General and Comparative Endocrinology* **187**: 39-47. DOI: [10.1016/j.ygcen.2013.03.021](https://doi.org/10.1016/j.ygcen.2013.03.021)

Paris, M.C.J., White, A., Reiss, A., West, M and Schwarzenberger, F. (2002). Faecal progesterone metabolites and behavioural observations for the non-invasive assessment of oestrus cycles in the common wombat (*Vombatus ursinus*) and southern hairy-nosed wombat (*Lasiorhinus latifrons*). *Animal Reproduction Science* **72**: 245-257.

Phillips, S.S. and Callaghan, J. (2011). The Spot Assessment Technique: a tool for determining localised levels of habitat use by koalas *Phascolarctos cinereus*. *Australian Zoologist* **35(3)**: 774-780. DOI: [10.7882/AZ.2011.029](https://doi.org/10.7882/AZ.2011.029).