

ECOLOGICAL STATUS & VIABILITY OF KOALA POPULATIONS IN THE TWEED LGA

We apologise for not being able to attend the meeting this evening but have provided the information below *in lieu* and for the purpose of presenting some background and possible direction for Koala management in the Tweed. The information we provide here is based on long-term involvement with Koala populations in the Tweed LGA and elsewhere.

Overview

Determining the status and viability of Koala populations at the landscape (or LGA) scale requires detailed knowledge about a number of ecological aspects of the population. While some basic detail is available, it is difficult to provide a definitive account of the ecological status of the Koala population in the Tweed LGA and its long-term viability, as the level of information required is not yet available. Nevertheless, Koala management is a key issue for the Tweed, and the decisions made today will affect the long term future of the species in the LGA. The number of unknown factors detailed below may be disconcerting, however the tools for obtaining this information are available and are being utilised with success elsewhere on the east coast.

Basis for management

- Koalas are a highly specialised folivore, feeding almost exclusively on species of *Eucalyptus*.
- Koala populations exist in a polygynous social structure in which a male's home range overlaps with that of several females, with complex 'rules' governing interactions between individuals.
- Large tracts of contiguous bushland are required for sustaining viable populations.
- Populations are predetermined to slow recovery from disturbance due to low reproductive rate.
- Animals exhibit long-term fidelity to home range areas, where they reside for the term of their lifespan.

What we do know

- Koalas were once widespread and abundant in the Tweed LGA, their distribution extending along the coastline from the Qld/NSW border to Crabbes Creek in the south, and extending westwards throughout the LGA wherever suitable habitat occurred.
- In the Tweed LGA, a small suite of tree species is recognized as the preferred food source:
 - Tallowwood (*Eucalyptus microcorys*)
 - Swamp Mahogany (*E. robusta*)
 - Forest Red Gum (*E. tereticornis*)

- Grey Gum (*E. propinqua*)

Population viability

- Tweed Coast Koalas must be recognized as a single population for management purposes due to their isolation. Population centres occur at Kings Forest/Forest Hill, Cudgen - Round Mountain/Searanch, and Pottsville-Dunloe Park.
- Some Population Viability Analysis (PVA) work has been done for the Tweed Coast, which showed a poor long term prognosis for this population.
- The long term future of this population appears tenuous, particularly given strong evidence of attrition in both north and south of historical range.

Threats to Tweed Koalas

- Apathy
- Inappropriate urban development
- Private forestry practices
- Motor vehicle strike
- Dogs in some areas
- Fire – including hazard reduction burning

The bad news

- Populations are now mostly gone from the north of the LGA, having either disappeared or largely declined from areas formerly supporting known populations eg. South Tweed/Fraser Drive, Chinderah and Kingscliff.
- Population attrition is also evident in the south of the LGA (Wooyung).
- Remaining Koalas on the Tweed coast are now mostly isolated from the rest of the LGA by the Yelgun to Chinderah motorway, where there is ongoing mortality despite ameliorative measures.
- The Tweed Coast population probably consists of less than 500 animals, not taking into account losses which were likely sustained during the 2005/2006 fire at Round Mountain.

The good news

- Cessation of logging practices in places like Mebbin, Mooball & Mt. Jeurusalem (former State Forests, now National Parks) will likely provide for potential population increase.
- There is good evidence that appropriate development can be effectively integrated with Koala habitat, eg. Koala Beach – shows how it can be done, but initial concepts can be improved (smaller building footprints/larger lot sizes, more internal greenspace).

- Good assessment tools are now available for analysis and assessment of Koala populations at a landscape scale and in order to fill in gaps in knowledge.

What we don't know

- Status and viability of populations outside the Tweed Coast area is unknown.
- Accurate knowledge on current distribution of Koalas throughout the LGA is not available. There are few records for the past three years, and no large-scale survey work carried out.
- Population size for the LGA is unknown, however there is some evidence suggesting that populations in areas such as Tyalgum and Mebbin are small.
- The occupancy rate (which provides a measure of the population's status) for Koalas in existing habitat is largely unknown, with some work suggesting that 23% of otherwise suitable habitat is occupied (less than half of that which is considered optimal).

What we need

- Standardised approach to assessment of habitat and location of populations.
- 'Big-picture' approach to management aimed at maintenance of existing populations and improvement in extent and connectivity of habitat.
- Standard DCPs for development in Koala habitat
 - no dogs
 - retention of all preferred food trees
 - avoid fragmentation of forest blocks
 - restore connectivity between forest blocks in cleared landscapes
 - aim for habitat restoration/augmentation in unoccupied areas
- Management plan for LGA.

We would be happy to provide further details and/or information if so required. Please don't hesitate to contact us.

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