7 February, 2011
Committee Secretary
Senate Standing Committee on Environment, Communications and the Arts
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The Inquiry into the status, health and sustainability of Australia's koala.

I am pleased to provide these comments to the Senate Standing Committee on Environment, Communications and the Arts for consideration.

Introduction

This submission is primarily directed at koalas found in forests growing on the Murrah Soil landscape[1] in catchments from Dignams Creek to Wapengo in the South East Corner Bioregion (SECB)[2]. Most of this area has historically been referred to as the Five Forests.

Purpose of this Submission

The purpose of this submission is to provide further information, evidence and observations in relation to the following terms of reference -

- The iconic status of the koala and the history of its management;
- Estimates of koala populations and the adequacy of current counting methods;
- Knowledge of koala habitat;
- Threats to koala habitat such as logging, land clearing, poor management, attacks from feral and domestic animals, disease and roads, and urban development;
- The listing of the koala under the EPBC Act;
- The adequacy of the National Koala Conservation and Management Strategy;
- Appropriate future regulation for the protection of koala habitat;
- Interaction of state and federal laws and regulations; and
    - Any other related matters.

    - The iconic status of the koala and the history of its management;

It seems likely that the iconic status attributed to koalas has resulted in both positive and negative outcomes. While providing the species with a national and international profile at the same time a lack of knowledge has led to perceptions that all koalas need is eucalyptus trees. Such perceptions seem to stem partly from the differing interests, beliefs and approaches of Government land management agencies.

Hence from a biological perspective the Five Forests koalas can be said to be the last of the species known to be occupying parts of the Bateman and South East Coastal Ranges sub-bioregions the SECB. However, from a management perspective their location is in the Southern Rivers Catchment Management Authority area, straddles the Bega and Eurobodalla Shires and the Eden and Southern Regional Forest Agreement areas and is part of the DECCW's Far South Coast management region, within the state of New South Wales.

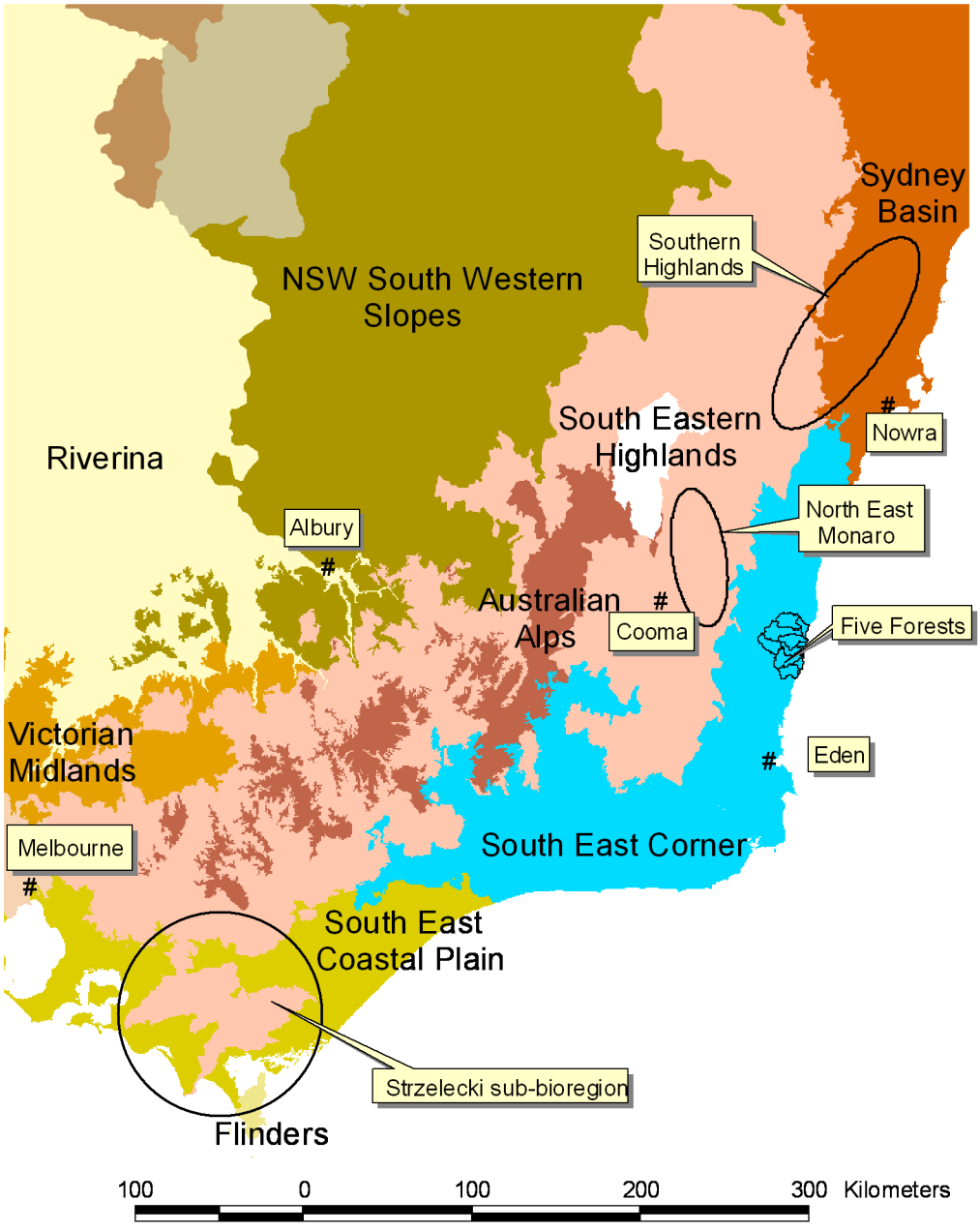
Recent genetic analysis has confirmed that the Five Forests koalas are more closely related to Victorian koalas in particular " . . . the unique remnant gene pool of the South Gippsland/Strzelecki ranges region."[3] as detailed in the following map.

1 Tulau, M. (1997) *Soil Landscapes of the Bega-Goalen Point 1:100,000 Sheet*, Department of Land and Water Conservation, GPO Box 39, Sydney, NSW 2001.

2 http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/index.html#ibra

3 Koala surveys in the coastal forests of the Bermagui–Mumbulla area: 2007–09 – An interim report (2010) Department of Environment, Climate Change and Water NSW 59 Goulburn Street, Sydney PO Box A290, Sydney South

Areas occupied by koalas east of the Alps between Melbourne and Sydney



The ellipses on the map referred to as 'North East Monaro' and 'Southern Highlands', encompass areas known to support koalas within the Sydney Basin and South Eastern Highlands bioregions identified in a draft report[4] provided by the NSW DECCW.

The DECCW have indicated that they did not send any information to the Threatened Species Scientific Committee on the most recent threatened nomination and it is understood that the genetic status of koalas in the ellipses is yet to be determined.

The RFAs have led to a perception that koalas are 'protected' in National Parks and when coupled with claims that koalas can still be found elsewhere, apparently justifies logging of areas with koalas.

- Estimates of koala populations and the adequacy of current counting methods;

Estimates of koalas have previously relied on the results of a regional koala call-back survey[5] and postal surveys [6]. Unfortunately neither of these surveys resulted in on ground surveys to verify koala presence.

In 2001 koalas from Dignams Creek to Wapengo were nominated for listing as an endangered population under Part 2 of Schedule 1 of the (NSW) Threatened Species Conservation Act (1995). In rejecting the nomination (Attachment 1) it is understood the NSW Scientific Committee considered the results of these surveys to be 'solid evidence' that koala numbers had not declined.

Of the four areas with koalas indicated in the map above, only the Five Forests have had surveys designed to aid in defining koala home-ranges and therefore estimate koala numbers[7]. The results of these surveys, undertaken over two years and across 21,000 hectares provide for 23 to 47 koalas occupying about 11% of the area.

As indicated in the graphic (Attachment 2) all bar one of the 'active' sites were located on the Murrah soil landscape.

- Knowledge of koala habitat;

It is generally acknowledged that prior to European occupancy, lands that were subsequently cleared for agriculture in the SECB contained primary feed species that

were occupied by koalas at high densities. Many thousands of koalas were killed for their fur as clearing for agriculture continued.

In the first decade of the 20th century and apparently over a short timeframe the remaining koalas on agricultural land were found dead and dying. Although koalas

4 Estimating koala populations and trends & Assessing populations and trends in SE NSW (draft) - Information prepared for the Threatened Species Scientific Committee to assist its assessment on the listing of the Koala as a threatened species under the EPBC Act (2010), Chris Allen, Department of Environment Climate Change & Water, NSW. http://www.fiveforests.net/resources/Estimating%20Koala%20populations%20and%20trends%20in%20SENSW_100203.pdf

5 Jurskis V., Douch, A., MacCray, K., Shields, J., (2001) A Playback Survey of the Koala, Phascolarctos cinererus, in the Eden Region of South Eastern New South Wales, State Forests of NSW, South East Region, PO Box 273, Eden, NSW, 2551.

6 Lunney D, Crowther MS, Shannon I and Bryant JV (2009) Combining a map-based public survey with an estimation of site occupancy to determine the recent and changing distribution of the koala in New South Wales. Wildlife Research 36:262-273.

7 Biolink Ecological Consultants (January, 2008) The utility of regularized, grid-based SAT (RGBSAT) sampling for the purposes of identifying areas being utilized by koalas (Phascolarctus cinereus) in the South-east Forests of NSW – A Pilot Study; Report to the NSW Dept. Environment & Climate Change; PO Box 196 Uki NSW. http://www.fiveforests.net/resources/Wapengo%20report.pdf

still feed on the primary feed species Forest Red Gum (*E. tereticornis)* where retained on the NSW north coast, this did not occur in the SECB or in similar habitat that was cleared on the South East Coastal Plain.

The current understanding of koala habitat focuses on preferred tree feed species. Hence Forest Red Gum is considered to be a primary feed species although there is no contemporary evidence of koalas utilizing these trees in the SECB. As indicated in the graphic (Attachment 2) koalas located during the RGB-SAT surveys are predominately constrained to the Murrah soil landscape. While the same secondary feed species occur on other soil landscapes there is no evidence of koalas.

- Threats to koala habitat such as logging, land clearing, poor management, attacks from feral and domestic animals, disease and roads, and urban development;

The NSW Scientific Committee (Attachment 1) acknowledged that the nominated koalas are threatened by ongoing degradation in the quality of their habitat because of extensive canopy dieback, clearing due to rural residential development and commercial forest harvesting.

While all remaining unlogged forest under Forests NSW's management is scheduled for logging, according to the most recent information in the NSW Government's State of the Environment (SOE) report[8] forest areas that were logged before transfer to National Park are now classed as " . . . native – intact: native vegetation in which the structure has not been substantially altered by human activities, or has been altered and has since recovered."

A greater future concern is extensive canopy dieback on ridges and slopes associated with dry weather and drought. The two major occurrences of this unprecedented threat to koalas occurred in 1998, prior to the RFA for Eden and from 2002 to 2004.

At lower topographies in 'wetter' forests Bell-Miner Associated Dieback (BMAD) affects extensive areas and was listed as a Key Threatening Process in NSW in 2008.

In 1996 local residents passed on to the NSW Government the results soil physical and chemical analysis of the Murrah soil landscape to the NSW Government.

Although these data represent the most comprehensive undertaken in a forested environment, the agencies (DECCW and FNSW) do not agree with the interpretation of the data, perhaps because of a reluctance to accept soil degradation including

decreasing soil fertility, as factors behind poor tree growth, dieback and declining koala numbers.

Rather, and without the need for an adequate weather record the DECCW suggest dieback results from climate change and in their SOE report suggest the future for vegetation in the Southern Rivers management area is uncertain.

8 Native vegetation, Southern Rivers region. State of the catchments 2010Department of Environment, Climate Change and Water NSW, 59–61 Goulburn Street. PO Box A290, Sydney South 1232.

In contrast to all apart from the CRC for bushfire research, Forests NSW insist that dieback results from not enough burning[9]. Attempts to extract information on the extent of dieback, held by Forests NSW, have so far not been successful.

Historically there has been no monitoring of soil conditions in forests and according to the SOE report, collecting information on agricultural soils does not involve sampling the full soil profile or determining soil Cation Exchange Capacity, the only credible test for soil fertility.

- The listing of the koala under the EPBC Act;

It seems likely that the Threatened Species Scientific Committee, in common with the NSW Scientific Committee, was faced with contradictory information. For example the Victorian Department of Sustainability[10] suggest-

> Forests available for commercial timber harvesting – In Victoria there is now relatively little overlap between commercial timber harvesting and key Koala habitat.
>
> Exceptions to this include:
> • hardwood plantation forestry in the Strzelecki Ranges
> • native forest harvesting in some forests in central and western Victoria.
> Where timber harvesting occurs, the network of Special Protection Zones (where harvesting is excluded) and habitat prescriptions, minimise the impact on local Koala populations.

The issue here is that the Department has an opinion that would not be supported by those in the community who have documented the loss of koala habitat while the Department has ignored their work attempting to protect and link core areas. There appears to be no evidence that translocated koalas have survived in all or any locations they were moved to in eastern Victoria.

There is also the issue of whether, given the Commonwealth guarantees 'accreditation' for forest management systems under the RFAs and these systems are certified as 'sustainable' through the Australian Forestry Standard, plausible reasons for declining koala numbers are pushed aside. In the case of the Strzelecki koalas forest management is also certified by the Forest Stewardship Council.

- The adequacy of the National Koala Conservation and Management Strategy;

The strategy provides for the following short term outcomes –

Desired outcomes—short term (0–10 years)

> *5. Increased consideration of koala habitat demonstrated in development planning.*

9 Decline of eucalypt forests as a consequence of unnatural fire regimes Vic Jurskis (2005)Forests NSW, PO Box 273, Eden, New South Wales 2551, Australia

10 Victoria's koala management strategy, (September 2004) Biodiversity and Natural Resources Division,©The State of Victoria Department of Sustainability and Environment

6. Greater area of high-quality koala habitat conserved and effectively managed through legislation,covenants or agreements.
7. Greater activity by land and resource managers to effectively protect and manage koala populations.
8. Increased community capacity to drive koala conservation and care.
9. Productive and integrated partnerships that foster the conservation and welfare of koalas.

As illustrated in the graphic (Attachment 3) coloured areas have previously been subject to integrated logging and light blue hatched areas are scheduled for logging.

The ellipse encompasses areas affected by shotgun noise. This development, approved by the DECCW, is located at a site where retaining the lead shot on site is impossible[11]. Recent water testing undertaken by Bega Shire Council found lead in the Murrah Lagoon, several hundred metres downstream, suggesting soils around and downstream of the site are likely to be polluted with lead.

Although there are national guidelines for determining the extent of contaminated land Bega Shire Council, as lead agency, has ignored them.

Whether the low number of active koala sites located in the ellipse reflects the disturbance associated with the shotgun club is uncertain. However, based on the available information the inappropriate location of the gunclub, the negative environmental impacts and potential threat to the broader community, it unlikely that this development would benefit koalas.

At the western end of the ellipse is the site of a community initiated koala recovery project, funded through the Natural Heritage Trust, both the DECCW and Forest NSW have failed to support the project apparently on the basis that no other approach, other than their management, is required.

From that perspective and while well meaning, it is impossible to see how the short-term outcomes proposed in the strategy could be achieved.

As indicated in comments sent to the TSSC `The National Koala Conservation and Management Strategy is totally dependent on the capacity of State agencies to effectively implement actions down to a local scale.'
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While the RFAs provide for 'adaptive management' the approach taken by State and Local governments fail in every respect.

- Appropriate future regulation for the protection of koala habitat;

A long-term (0 to 50 years) performance indicator in the National Koala Conservation and Management Strategy is *"Koala populations in identified priority areas are stabilised or increasing"*

11 POLLUTION HAZARDS FROM SPORTING SHOOTING RANGES: ENVIRONMENTAL AND ECONOMICCONSIDERATIONS ILLUSTRATED FROM A PROPOSAL AT BODALLA STATE FOREST AUSTRALIAPeter CL John, BSc PhD, Senior Fellow in Research School of Biological Sciences Australian National UniversityCanberra, ACT.
http://www.rsbs.anu.edu.au/Profiles/Pete_John/pdfs/SubmissnRSBS_&NIE_small%20fig%20DOC%205june03.pdf

If soils and their fertility are considered it is possible to explain the perceived 'irrevocable'[12] loss of habitat and extinction of koalas on agricultural land and their on going decline in 'secondary habitat' in the SECB.

As a consequence 'protection of koala habitat' in the short term can only come from removing the threat of logging and the negative impacts of deliberate burning.

In their place active and adaptive management that is based on credible science are required to address the other threat – extensive canopy dieback and associated tree mortality.

- Interaction of state and federal laws and regulations; and

The basis of the Regional Forests Agreements are the dual notions that forests are protected 'in perpetuity' in National Parks and logging is sustainable. Neither of these notions has been proved and all the plausible information demonstrates otherwise.

Should it be considered that the Five Forests koalas are in a priority area, the first priority is to replace current management with a regime that is designed to address the threats while providing positive social, economic and environmental outcomes.

- Any other related matters.

It seems likely that the loss of koalas and the forests they depended upon will have very negative impacts on the human population. Consequently, is arguable that a positive future for koalas and humans is closely linked to scientifically based management aimed at REDD. Hence, governance at a bioregional scale is required.

Thank you for the opportunity to present this submission to you for consideration by the Committee. I would be pleased to discuss these matters with the Committee further.

Robert Bertram
7 February 2011
Friends of the Five Forests
http://www.fiveforests.net/

Attachment 1

NSW SCIENTIFIC COMMITTEE

Mr R Bertram

Dear Mr Bertram,

12 Lunney D., Leary T., (1988) *The impact on native mammals of land-use changes and exotic species in the Bega district, New South Wales, since settlement.* National parks and Wildlife Service, NSW, PO Box N189, Grosvenor St, Sydney, NSW, 2000, Australia.

Thank you for your submission in regard to the Preliminary Determination by the NSW Scientific Committee not to support a proposal to list a population of the Koala *Phascolarctos cinereus* occupying coastal sub-catchments between Dignam's Creek and Wapengo Lagoon near Bega in south-eastern New South Wales as an endangered population in Part 2 of Schedule 1 of the Threatened Species Conservation (TSC) Act (1995).

The criteria for listing determinations of an Endangered Population are prescribed by the TSC Regulation 2002. The Committee found that this population did not satisfy any of the paragraphs in Clause 19 of Division 2 of the TSC Regulation (2002), specifically that the population (a) is not disjunct or near the limit of its geographic range, (b) is not likely to be genetically, morphologically or ecologically distinct, or (c) is not otherwise of significant conservation value.

As previously advised in the Committee's letter of 4th December 2006 the Scientific Committee, in consultation with koala experts from NSW, Victoria and Queensland, subsequently developed a set a guidelines for defining 'disjunct populations' and populations of 'significant conservation value' in the context of the TSC Act. In regard to the nomination of Koalas occupying the coastal sub-catchments between Dignam's Creek and Wapengo Lagoon near Bega, these guidelines indicate that this population is sufficiently connected by habitat to the broader Koala population of south-east NSW so as not to be a disjunct population. Moreover, there is no evidence that the nominated population is likely to be genetically, morphologically or ecologically distinct. Nor does the population satisfy the guidelines in regard to a population of significant conservation value.

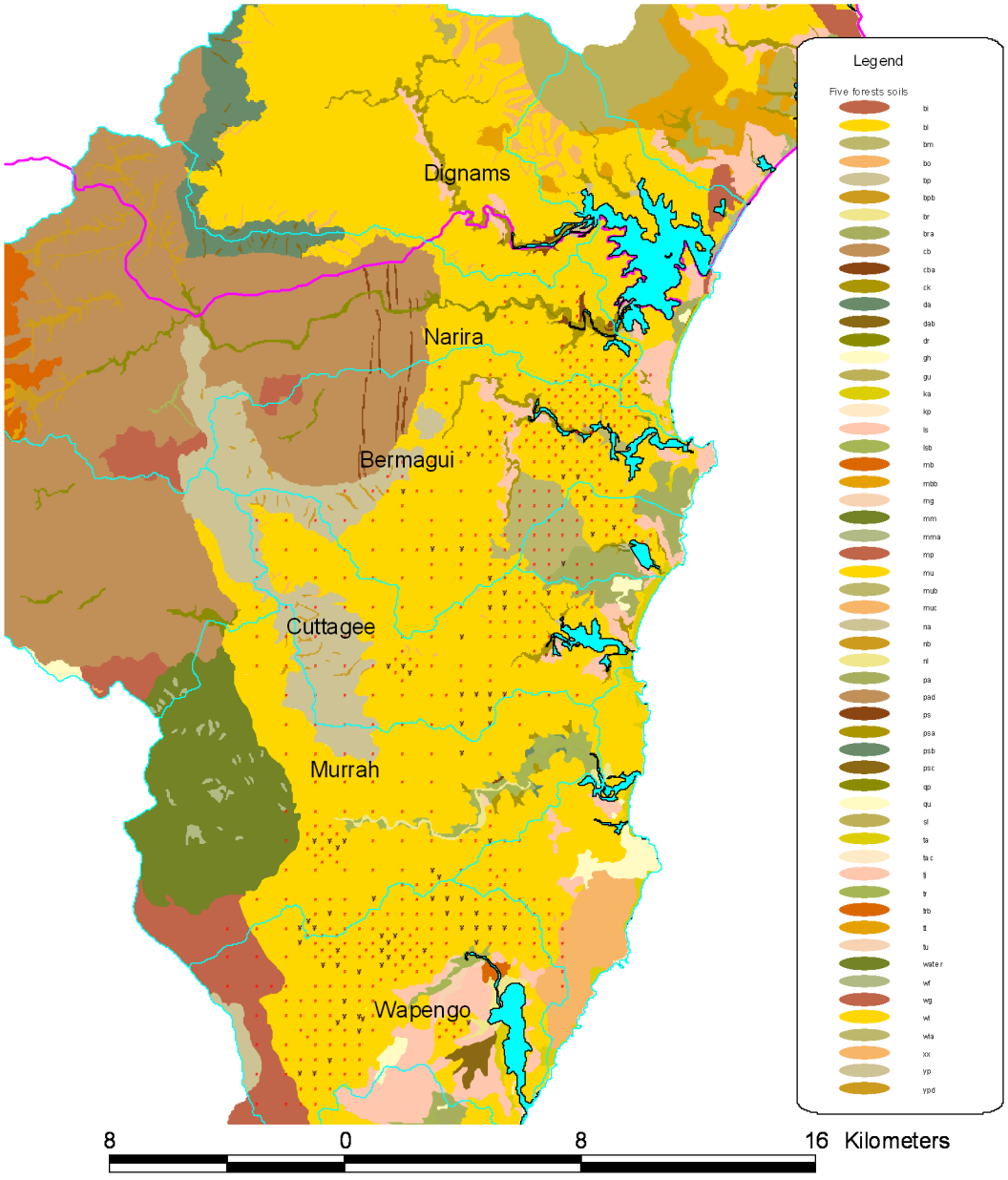
The Committee's rejection of this nominated koala population does not imply that the long term viability of this Vulnerable Species is not at high risk of extinction in the medium-term future. Koalas in the area of the nominated population are threatened by ongoing degradation in the quality of their habitat because of extensive canopy dieback, clearing due to rural residential development and commercial forest harvesting. Further measures are needed to mitigate these threatening processes and provide for the recovery of this iconic species in south-east NSW and elsewhere in its range.

Yours sincerely
Professor Lesley Hughes
Chairperson
Scientific Committee

1 2 DEC 2007

Attachment 2

RGB-SAT Koala surveys and soils



Attachment 3

Development in and adjacent to Murrah and Mumbulla SFs