

COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

ENVIRONMENT AND COMMUNICATIONS REFERENCES COMMITTEE

Status, health and sustainability of Australia's koala population

(Public)

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MELBOURNE

BY AUTHORITY OF THE SENATE

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EXTRACT

KAMBOURIS, Mr Peter James, Regional Ecologist, Southern, Forests NSW

**STIRLING, Mr James Andrew, Manager, Planning and Environment, Native Forests
Operations, Forests NSW**

[14:28]

ACTING CHAIR: Welcome. I thank you for being here to talk to the committee today. As government officials you will not be asked to give opinions on matters of policy, though this does not preclude questions asking for explanations of policy or factual questions about when and how policies were adopted. We do not have a written submission from you, but we would certainly be happy to take one. Would you like to make an opening statement?

Mr Stirling: Yes. Forests NSW welcomes the opportunity to appear before the committee to contribute information to the inquiry into the status, health and sustainability of koala populations in New South Wales. Forests NSW is the registered business name of the Forestry Commission of New South Wales and it operates as a public trading enterprise within the Department of Trade and Investment, Regional Infrastructure and Services. The Forestry Commission is constituted under the Forestry Act 1916 and is subject to the direction of the responsible minister. Forests NSW manages about two million hectares of public native forests and an additional 280,000 hectares of public planted forests to deliver a range of environmental, economic and social benefits to the people of New South Wales. Of the two million hectares of public native forests, about one million hectares are available for harvesting, and some two to three per cent are harvested annually.

Apart from the Forestry Act, the main regulatory framework governing the way Forests NSW manages the public native forests is comprised of the regional forests agreements, the NSW forest agreements and the integrated forestry operations approvals and their embedded threatened species licences, fisheries licences and environmental protection licences. The threatened species licences are designed to protect threatened species and the habitat of threatened species from forestry activities. In relation to koalas, the licences prescribe the way in which Forests NSW must conduct surveys for the detection of koalas, signs of their presence and signs of their preferred habitat. The licences also prescribe the measures that must be put in place to protect them.

Forests NSW is aware that there is continuous forest cover from Queensland to Victoria and that there are records of koalas scattered throughout. Forests NSW is also aware that there are healthy and viable populations of koalas in the forests of the North Coast, Central Coast, South Coast and northern inland New South Wales. It is not feasible to count koalas at a landscape scale because they are difficult to see and have home ranges varying from about one hectare to hundreds of hectares. However, credible estimates of population size can be made based on knowledge of home range size, area of habit and rate of occupancy of that habitat. Home range size is estimated by radio tracking and mapping, the area of habitat is estimated by remote sensing and the rate of occupancy is estimated by thorough surveys of a sample of each habitat type. Precise estimates can be obtained for dense populations in prime habitats, and imprecise and costly estimates can be obtained for low density populations in habitats with low carrying capacity.

In 1991 koalas were detected at 13 per cent of sites in eucalypt forests in the Coffs Harbour, Dorrigo, Grafton and Glen Innes public forests. This equated to an estimated population of about 5,000 koalas. In 1992, koalas were the most common arboreal mammal in the Urbenville State Forest with a detection rate of 46 per cent. Thus, a conservative estimate of the koala population in that area would be 11,000. Between 1990 and 1997 a radio tracking study of koalas in low carrying capacity habitats at Eden provided information on the home range size of seven koalas, and a regional listening and playback survey achieved a detection rate of four per cent. This information supports a population estimate of about 1,500 animals.

A conservative estimate of the moderately dense koala population in the Pilliga scrub in 1999 was 15,000 koalas. On this basis, 32,500 koalas were known to be present, or could be reasonably assumed to be present, in New South Wales on the basis of forest type. Forests NSW has not collated information to estimate the abundance of koalas on the Central Coast; however, on the basis of similar forest types and an abundance of records, it could be reasonably assumed that there are similar numbers as on the North Coast—about 5,000 animals. The apparent abundance of records of koalas at any place and time generated by other methods simply reflects the amount of time spent looking for them.

In 1987 a postal survey showed that koalas are distributed throughout central and coastal New South Wales, principally on the Central and North Coast, and that their distribution is related to the presence of preferred food trees, primarily trees on nutrient-rich soils selected for agriculture. As a generalisation, koalas prefer drier forest types to wetter ones. In the north of the state, their preferred food tree species are known to be tallow wood, red gum, grey gum and swamp mahogany. In the south of the state preferred food tree species are manna gum and red gum, but they have been largely cleared for agriculture. In the forests, secondary food tree species are monkey gum, maiden's gum, woolly butt, grey box, river peppermint, yertchuk and apple. In the west of the state preferred food tree species are red gums and pilliga box.

Forests NSW believes that the main threat to the koala is permanent clearing of its habitat primarily through agriculture and urbanisation. It also believes that catastrophic fire and eucalypt decline will become threats if fire management is not improved. Forests NSW does not believe that logging of public native forests in New South Wales threatens koala populations. On the north coast, koalas are significantly associated with heavily logged areas, with a 22 per cent detection rate, rather than unlogged or selectively logged areas, which have a five per cent detection rate. A short-term study in the Pilliga forest showed that white cypress pine logging did not affect koalas' survival, use of habitat or reproduction. Studies at Eden showed that koalas preferentially use logged coupes in logged/unlogged mosaics and that koalas were found in the same coupes before and after logging.

Forests NSW is unable to comment on the consequences of listing the koala under the Environment Protection and Biodiversity Conservation Act at this time. The consequences would depend on the conditions and limitations that flowed from such a decision. Insofar as the National Koala Conservation and Management Strategy applies to the management of state forests in New South Wales, its aims, objectives and actions are considered adequate. Forests NSW believes that the currently regulatory framework that applies to the protection of koalas and their habitat on state forests in New South Wales is appropriate and will be appropriate for the future. However, various conditions within the threatened species licence may be able to be improved in the future, using current knowledge of tree and forest-type preferences, home range sizes, population densities and distribution, and threats.

Forests NSW believes that the current interaction of state and federal laws and regulations as they apply to the protection of koalas and their habitat on state forests in New South Wales is appropriate and will be appropriate for the future. A bilateral agreement between the state and the Commonwealth makes the regulation of forestry activities on state forests in New South Wales effective and efficient.

ACTING CHAIR: Mr Stirling, would you be willing to table that document you have just read from? You do not have to, but I am inviting you to if you would like to.

Mr Stirling: I can do that. I have a copy without my scribble on it.

ACTING CHAIR: Thank you. Mr Kambouris, would you like to make an opening statement?

Mr Kambouris: I have no further comment or an opening statement, thank you.

ACTING CHAIR: I will start off. Mr Stirling, you have said that koalas prefer logged coupes to unlogged coupes. Does it follow that if all the forests were logged you would have a better or happier koala population?

Mr Stirling: No, I do not think so. It just means that from time to time koalas prefer logged areas to unlogged areas.

ACTING CHAIR: Why is that?

Mr Stirling: I suspect it has to do with the new shoots and the different nutrient status of growing trees as compared to old trees.

Mr Kambouris: Yes, that is a fair assumption.

ACTING CHAIR: So where you log forests the population increases. Is that the outcome?

Mr Stirling: I do not know that anybody knows that. The quote is from a particular area, and unless you do radio tracking you cannot get a good handle on populations of koalas.

ACTING CHAIR: Have you done radio tracking?

Mr Stirling: Those figures come from radio tracking exercises, yes.

ACTING CHAIR: Can you tell me how that radio tracking exercise was undertaken? That was at Eden, wasn't it?

Mr Stirling: They were on the North coast, the Central Coast and in northern inland New South Wales as well.

ACTING CHAIR: Okay, but your statement about koalas preferring logged coupes was related to Eden.

Mr Stirling: That is correct.

ACTING CHAIR: Can you tell me how that assessment was done?

Mr Stirling: No, I do not have the specifics of that piece of work here. I can certainly get it for you.

ACTING CHAIR: Would you please take that on notice.

Mr Stirling: Yes, unless you know any more about it, Mr Kambouris.

Mr Kambouris: I think it is a better option to table the report. There is a scientific report associated with that survey effort.

ACTING CHAIR: Was radio tracking used there?

Mr Kambouris: Yes, for several animals.

ACTING CHAIR: I am just interested in how you get an assessment of a population through radio tracking. Can you explain that to the committee?

Mr Kambouris: An assessment of population numbers?

ACTING CHAIR: Yes. I think Mr Stirling was saying that the preference of koalas for logged coupes as against unlogged coupes was established through radio tracking.

Mr Stirling: That is right. The home range is estimated by radio tracking animals and then you work out the area of habitat estimated by remote sensing, so that is preferred forest types. Then you need to do a sample to work out the rate of occupancy of each of the habitat types.

ACTING CHAIR: How does the radio tracking relate to that sample to work out the rate of occupancy?

Mr Stirling: The radio tracking provides an estimate of the area of home range I believe.

ACTING CHAIR: Yes, but how does that tell you how many koalas are occupying a logged coupe, for example?

Mr Kambouris: The logged coupe in the example would be occupied by one animal. It is about the proportion of time that was spent within that habitat or that home range and it spent a significant proportion of its time within logged areas.

ACTING CHAIR: When you are assessing a koala population surely you are assessing the natural population in that area. Without all of the koalas being fitted with radio-tracking devices you are not going to know where the population is or what it is, are you?

Mr Stirling: It is only a sample. All estimation methods are samples.

ACTING CHAIR: Okay. In regard to the Dorrigo region that you spoke about, what has been the population increase after logging at Wild Cattle Creek?

Mr Stirling: I do not have any information about that. These are published papers that I read out to you. Forests NSW has not done any more radio tracking of animals in these populations since this data was produced.

ACTING CHAIR: When was that?

Mr Stirling: In 91, 92, 97 to 99 and 99.

ACTING CHAIR: So there has not been any data from the last decade?

Mr Stirling: We have not done any radio tracking. I do not know what other data is available.

ACTING CHAIR: We had evidence from Victoria earlier that logging almost certainly affects koala populations. You are giving us the contrary evidence that it actually improves the koala population. Can you tell the committee how we might sort out which of those assertions is the right one?

Mr Stirling: I think they are different. I think the Victorians said they were doing clear-felling. Logging in New South Wales is under a completely different regulatory regime where we do not do any clear-felling.

ACTING CHAIR: You said that there are records of koalas scattered through the forests from north to south in New South Wales. We have been looking at the koala population near Bermagui. Is that population actually connected to populations further north? Do you know if it is isolated to the north or indeed where the next population north of it is?

Mr Kambouris: To the best of my knowledge there are records immediately to the north of Bermagui including state forests and national park estate.

ACTING CHAIR: Is that the Mumbulla State Forest?

Mr Kambouris: Further north of Mumbulla. Mumbulla is to the south of Bermagui. There are records through the Bodalla State Forest going into the Eurobodalla area to the north. There are also scattered records to the east going up to the escarpment on the Southern Tablelands.

ACTING CHAIR: Would you provide the committee with those records?

Mr Kambouris: Certainly.

ACTING CHAIR: How recent are they?

Mr Kambouris: They vary. Historic records go back from landscape scale survey efforts through the eighties and nineties, and postal surveys were undertaken by the Office of

Environment and Heritage more recently, with some information published in scientific journals as recently as the last year or two.

ACTING CHAIR: Just relating to the Mumbulla logging proposed and actual logging area, are there koalas present?

Mr Kambouris: In the areas that we have surveyed for preharvest surveys, no.

ACTING CHAIR: Are there any in adjacent areas?

Mr Kambouris: There are koalas scattered throughout the park and forest estate in that region, yes.

ACTING CHAIR: But not in the area that is to be logged?

Mr Kambouris: In the area that is earmarked for logging, no, not at this point in time.

ACTING CHAIR: Why is that?

Mr Kambouris: It is because the area earmarked for logging is spotted gum, and that does not appear to be a preferred browse species for koala in that vicinity.

ACTING CHAIR: And there has been no evidence on the ground, pellets or other evidence, of koala habitat in any of that logging area?

Mr Kambouris: In the areas where operations are proposed or occurring, no.

ACTING CHAIR: Since when?

Mr Kambouris: I can only comment on the preharvest surveys that have occurred in recent years. Also, similarly, there has been a broader survey effort led by the Office of Environment and Heritage that we have been heavily involved with. The outcomes of those survey efforts have suggested that the spotted gum forests in the vicinity do not appear to be occupied.

ACTING CHAIR: Spotted gum is not a koala habitat?

Mr Kambouris: It does not appear to be on the South Coast, Senator.

ACTING CHAIR: Spotted gum is not a food source for the koala?

Mr Kambouris: It does not appear to be. I am not aware that it has come up as a browse feed tree species in the South Coast area.

ACTING CHAIR: Are you aware that it has not been and is not?

Mr Kambouris: I cannot speak about that historically. But, from the current available information, I am not aware that it has been identified.

ACTING CHAIR: In the adjacent forest what is it that the koalas are eating?

Mr Kambouris: I would probably need to provide some information on the current surveys or research that is occurring. They are not Forests NSW projects; they are projects that have been led by the Office of Environment and Heritage. I am not aware of the specifics or the outcomes of that. It has not been published at this point.

ACTING CHAIR: You have said that they do not eat the spotted gum. Can you tell the committee what they do eat in that region?

Mr Kambouris: To the best of my knowledge, the preferred browse species for the koalas in the south-east of New South Wales, similarly throughout their southern extent, including Victoria, would be the red gum species, which is typical throughout New South Wales, and also the manna gum species to the southern extent of their range in that local area there. The state forest areas do not include those areas. They were mostly cleared for agricultural reasons on the more fertile river flats.

ACTING CHAIR: What are the koala populations that you have been telling us are in the area eating if not those two varieties of gums?

Mr Kambouris: As far as I am aware, and based on the information that has been published, the key browse species, as Mr Stirling mentioned earlier, would include woolly butt, grey gum, yertchuk—further south, I would assume—coast box and river peppermint as well, and apple.

ACTING CHAIR: Are any of those logged?

Mr Kambouris: Harvesting would occur within forested areas that contain those tree species.

ACTING CHAIR: So the answer is yes?

Mr Kambouris: Yes.

ACTING CHAIR: You have said that there are 1,500 animals near Eden. Whereabouts?

Mr Stirling: The published paper says the public forests in the Eden area.

ACTING CHAIR: Whose published paper is that?

Mr Kambouris: There are a number of papers that refer to the south-east area. Some of those were published in the late nineties, and also more recently by the same authors. The density of occupancy in the south-east is quite low, as has been mentioned previously, I believe. Based on the surveys that have been undertaken historically, looking at the density, the available habitat and the potential carrying capacity of that habitat, and also looking at more recent data that suggests there has not been a change in the occupancy or probable abundance within those forests, it is estimated that potentially over 1,000 animals could occupy that available habitat. That remains unchanged over the last four or five decades.

ACTING CHAIR: So this figure of 1,500 is not a count.

Mr Kambouris: No. As has been mentioned earlier, it is pretty difficult to try and get an accurate count at a landscape scale, particularly in low-density populations.

ACTING CHAIR: Can you tell the committee how many koalas have actually been counted south of Sydney in the last decade?

Mr Kambouris: I would have to refer to the wildlife atlas. I am not aware of the exact numbers.

ACTING CHAIR: Would you do that, then, and come back to the committee with a number. Do you know, Mr Stirling?

Mr Stirling: No.

ACTING CHAIR: Have you got any idea?

Mr Stirling: No.

ACTING CHAIR: But we do know from radio tracking that, where areas are logged, their population is likely to increase?

Mr Stirling: I do not think we went that far. What we said was that the published research shows that, in some areas, on the North Coast koalas are significantly associated with heavily logged areas, with a 22 per cent detection rate, as opposed to unlogged or selectively logged areas, with five per cent. It is in that published literature.

ACTING CHAIR: You said unlogged or selectively logged areas have five per cent but logged areas have 22 per cent, but a little earlier you said that selective logging was not a detriment to koalas. But on those figures it would appear that selective logging does not leave you with as good a population as complete logging.

Mr Stirling: The literature says that heavily logged areas had a detection rate of 22 per cent, as opposed to unlogged or selectively logged areas, with a five per cent detection rate. So with all of the surveys that we carry out pre logging, for instance—I do not know that that comes from our pre-logging surveys—from that published paper, I think, all you can check for is detection. You can only detect or not detect; you do not know anything about the population size.

ACTING CHAIR: But, from your detection study that you are referring to, you would do better to completely log an area than to selectively log it as far as koalas are concerned.

Mr Stirling: I do not know that it is a cause and effect without going through the population analysis and the studies. What we are saying is that you can go back and find them in heavily logged areas more frequently than you can in unlogged or selectively logged areas.

ACTING CHAIR: Do you think that might be because you can actually see them on the ground rather than up in the trees?

Mr Stirling: I do not know. You would have to read the paper and find out what it meant. I think it means that if you have heavily logged an area previously—30 years previously, perhaps—then you can find them in those areas more frequently than you can in unlogged areas.

Senator DI NATALE: What do you do if you see a koala? What is the process?

Mr Stirling: In a pre-logging survey?

Senator DI NATALE: No, if you are about to log.

Mr Stirling: There are a variety of different prescriptions required under the licences from the North Coast to the South Coast and inland, but if you detect one then, on the North Coast at least, you have to put an exclusion zone of a specified area around that tree or its high-use area, or you have to retain a higher level of preferred feed trees in what they call intermediate-use areas.

Senator DI NATALE: How often would that happen?

Mr Kambouris: On the North Coast, I could not speculate. I suspect, though, given the abundance of koalas that that may occur regularly. On the South Coast, that has not occurred in some time.

Senator DI NATALE: So it is different to what happens in Victoria, where apparently operations are ceased.

Mr Kambouris: No. If an animal is observed in an area during an operation, the operation is ceased. I think the response that was given is aligned to a detection of an animal during a pre-harvest survey and the prescriptive measures in place.

Senator DI NATALE: So it is the same procedure in place for once an animal is—

Mr Kambouris: Yes. The operation will cease.

Senator DI NATALE: How often does that happen?

Mr Kambouris: I am not sure. I could not speculate there.

Senator DI NATALE: Would you say that happens often?

Mr Kambouris: Again, I could not speculate. We could inquire and provide some information, but we cannot speculate at this point.

Senator DI NATALE: I would be interested to hear how regularly that occurs.

ACTING CHAIR: I want to go back to the question about the actual koala population in the Eden and Bermagui area. Can you tell me, on the records of Forests NSW, when a koala was last sighted in that region?

Mr Kambouris: During pre-harvest surveys or generally speaking?

ACTING CHAIR: Generally speaking.

Mr Kambouris: Probably within the last 12 months, during broader surveys.

ACTING CHAIR: Can you tell me when and where that was?

Mr Kambouris: I think that information would be available through the Office of Environment and Heritage. It was their project. We could look into that.

ACTING CHAIR: I wonder if you would be kind enough, because they are not before the committee, to try and get that information and provide it to the committee.

Mr Kambouris: Yes. If it has not already been provided, we can certainly do that. That information actually would be part of the wildlife atlas information that you have requested, so it would be evident in that. Those records would be included.

ACTING CHAIR: Regarding New England, in 1987 or 1988 an officer of your organisation gave evidence that when a koala—this is at Walcha—is spotted in a tree the tree is not knocked down but it is looked at the next day and, if the koala has gone, the tree is then knocked down. Is that still how it works with Forests NSW?

Mr Stirling: I do not know about the situation you are referring to, but the general conditions in the licences require the retention of a certain amount of habitat throughout the harvest area anyway. If it was a tree that was being retained then it would be retained. If it was a tree that was going to be harvested, provided it was not within one of these exclusion zones or a zone with a higher retention rate of trees triggered by the presence of the koala, then those trees could be harvested.

ACTING CHAIR: If a koala has been seen in one of those trees.

Mr Stirling: I would have to get out the conditions of the licence and have a look. I do not know what they are off the top of my head.

Mr Kambouris: As I understand the requirements of the threatened species licence, not just in the north-east but consistently, if a species has been detected in a tree—and that would be direct or indirect detection—that tree would be retained and would have an exclusion around it.

ACTING CHAIR: How big would that exclusion be?

Mr Kambouris: I believe it is a 50-metre radius exclusion around that tree. If there are multiple trees within a vicinity then they are linked, but that is additional to the other exclusions and habitat retention requirements within a compartment.

ACTING CHAIR: So it is a 50-metre radius of the tree these days.

Mr Kambouris: Yes.

ACTING CHAIR: What is the size of logging operations, coupes, that have been logged in New South Wales in 2011?

Mr Stirling: It depends what you mean by the logging area. Most of the compartments on the North and the South coast range from 150 to 300 hectares, in the Eden area. A logging coupe, an area that is able to be harvested within a compartment, is about 30 hectares.

ACTING CHAIR: Are there any logging operations in New South Wales where native forests are being replaced by exotic species?

Mr Stirling: Not on public lands.

ACTING CHAIR: That has finished these days?

Mr Stirling: Yes.

ACTING CHAIR: You gave the figures for Coffs Harbour, the Pilliga and the Central Coast. On my sums, the number of koalas came to 37,500 for New South Wales. Is that an overall number or do you have another figure for what might be the population of koalas in either forests under your care or as a total for New South Wales?

Mr Stirling: No, that is the most up-to-date information on population estimates that we have.

Mr Kambouris: That does not include other private lands. The figure we have given is for public land, predominately forests.

ACTING CHAIR: Thank you.

Senator McKENZIE: When was your last regional forest agreement?

Mr Stirling: The most recent assessment was in the south-west cypress. Is that the one you are talking about? It only just commenced in July this year for the south-west cypress.

Senator McKENZIE: That was for the south-east forest in July this year?

Mr Stirling: No, that was the south-west cypress forests. The south-east coastal New South Wales was in 1998 or 1999.

ACTING CHAIR: I have a question about the Mumbulla State Forest because, as you know, it is of some contention. What are the future logging plans for that forest?

Mr Kambouris: I am not aware of the area that you are referring to.

ACTING CHAIR: Mr Stirling knows because he knows it is south of Bermagui.

Mr Stirling: I think Mr Kambouris did now but, in any event, all of the state forests are on a harvesting schedule for one time or another. Other than the areas that are not able to be harvested, the rest of it would be planned to be harvested some time in the near future.

ACTING CHAIR: Could you supply the committee with the details about the logging plans for the Mumbulla State Forest?

Mr Stirling: When it is scheduled to be harvested?

ACTING CHAIR: The schedule and the extent, yes.

Mr Stirling: We normally work on a three-year rolling plan. I do not know that I have any more information further out than three years, but we can give you an indicative two years out and a more definite one-year plan.

ACTING CHAIR: Do you not have 10-year plans?

Mr Stirling: No, we have more detailed three-year plans. As I said, you will find that most of the forests in the areas subject to the IOFAs would be logged over 20-year period.

ACTING CHAIR: Do you have a 20-year indicative proposal?

Mr Stirling: No, not compartment by compartment and forest by forest. We have modelling that tells us the strategic plan for the whole of the area but then, based on markets and wet weather and all sorts of things, we do it on a rolling three-year plan.

ACTING CHAIR: Can you give the committee a copy of the strategic plan for the area, knowing that it is subject to those influences.

Mr Stirling: Probably, though I will have to ask the people who do the modelling.

ACTING CHAIR: Thank you.

Proceedings suspended 15:04 to 15:22