



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

SENATE

ENVIRONMENT AND COMMUNICATIONS REFERENCES
COMMITTEE

Status, health and sustainability of Australia's koala population

THURSDAY, 19 MAY 2011

CANBERRA

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SENATE
ENVIRONMENT AND COMMUNICATIONS REFERENCES COMMITTEE
Thursday, 19 May 2011

Senators in attendance: Senators Bob Brown, Cameron and Fisher.

Terms of reference for the inquiry:

To inquire into and report on:

The status, health and sustainability of Australia's koala population, with particular reference to:

- a. the iconic status of the koala and the history of its management;
- b. estimates of koala populations and the adequacy of current counting methods;
- c. knowledge of koala habitat;
- d. threats to koala habitat such as logging, land clearing, poor management, attacks from feral and domestic animals, disease, roads and urban development;
- e. the listing of the koala under the Environment Protection and Biodiversity Conservation Act 1999;
- f. the adequacy of the National Koala Conservation and Management Strategy;
- g. appropriate future regulation for the protection of koala habitat;
- h. interaction of state and federal laws and regulations; and
- i. any other related matters.

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MUCCI, Mr Albano 'Al', General Manager, Life Sciences, Dreamworld**Committee met at 09:04**

CHAIR (Senator Fisher): I declare open the second day of hearing into the inquiry into the status, health and sustainability of our very important koala population. The proceedings today will follow the program as circulated. The evidence that is given by witnesses today is public. It is subject to parliamentary privilege. It is an offence for a person to attempt to interfere with evidence that otherwise might be given by a witness before the inquiry, as it is potentially an offence—and indeed in contempt of the Senate, for a person themselves to give false or misleading evidence to the inquiry. If at any stage a witness to the inquiry objects to answering a question, they may say so and state their reasons for doing so, and the committee will consider that. Likewise if at stage a witness wishes to give evidence in private, or in camera as well call it, then they should make that request known to the committee and their grounds for doing so, and again the committee will consider it. I welcome our first witness, Mr Mucci. We have your submission. Do you wish to correct anything in it?

Mr Mucci: No, it is all correct.

CHAIR: Would you like to make a brief opening statement?

Mr Mucci: I feel privileged to be here today and I thank the senators and the Australian government for the opportunity. Current listings are not going far enough to protect this unique and iconic Australian animal from extinction in areas of bushland across Australia. To say that koalas are adequately protected is simply untrue. If they were, we would not be seeing the drastic eradication of koala habitat that is still happening to date on good bushland areas.

The following position is my own personal opinion. Current protection is inadequate and is failing. Planning land use is the key issue. Change does not have to cost jobs. How we deal with koalas is emblematic of how we deal with our entire natural environment in Australia. Are we heading for sustainability or are we really just paying lip service to the idea? If human population numbers continue to rise as they are doing now, the building of homes and city centres can continue to meet this demand. What we need is to rethink the way we use the land. Doing so need not affect the building industry and levels of employment, and could in fact create a more sustainable culture of land use that home buyers, property developers and builders can all be proud of. All that needs to change is the way we use the land. Koala habitat needs to be protected and we must ensure that these habitats are connected to each other. Roads and railways need to be carefully considered so that they do not fragment koala habitats. And we need to design more housing options into these landscapes, including much denser options so that less koala habitat is infringed upon. This is important and we need to show leadership in this area as holders of this iconic animal.

CHAIR: Thank you. If the declaration of the koala as a protected species under the so-called EPBC Act were to happen, what consequences would you be seeking to have flow from that?

Mr Mucci: I would think that developers, industry and other stakeholders that are affected by it would then rethink the way they go about their business and include habitat and preserving koala habitat in the system. At the moment it is just not tight enough.

CHAIR: Can you put some flesh on the bones? You are saying that it should be listed. You are obviously saying that for a reason and you make a lot of important points in your submission more generally. But in particular what value do you see in that listing? It is more than symbolic, I presume.

Mr Mucci: It is more than symbolic. I hope that listing it will then create change amongst the community, create change amongst state departments—

CHAIR: How?

Mr Mucci: By really putting in place measures that would protect habitat. I do not think the protection that is there now goes far enough.

CHAIR: Talk about that a bit more. What measures would you then be seeking to have put in place, as a consequence of the declaration, in relation to habitat.

Mr Mucci: If it becomes listed as a threatened animal then state governments, local councils, the people on the front line who are out there in these habitat areas really need to consider that bit of bush before doing whatever they are doing with it. Hopefully it will create a holistic approach, a sustainable approach, to it. Do I have all the answers? No. If I did—

CHAIR: If we did, I do not think we would be here.

Mr Mucci: Correct. But when we humans put our minds to it we can come up with answers, and there are people out there who do have some of the answers, and they will come out. You will see them come out. That is my opinion: that the listing will help those people come out. It will create an avenue for those people to come out and present different approaches to land use and land planning, and it will force councils and state governments to think about land use and land planning in a more considered way.

CHAIR: Under the act, one of the consequences that flows is the possibility of recognising key threatening processes. In your submission you talk about threats to habitat, for example, such as logging, land clearing and poor management. What would you hope to see listed as key threatening processes for the koala, bearing in mind that there would then be consequences that flow for those who today carry out the key threatening processes?

Mr Mucci: Depending on where you are—and I can only talk from south-east Queensland and, being a Sydney boy as well, from the greater Sydney area; in the other areas I suppose it is a case by case approach, because all those threatening processes that I mention are happening at different levels in different parts of the state. In south-east Queensland it is the urbanisation that is fragmenting koala habitat. Around Sydney it is urbanisation. You have got logging that is occurring in the peri-urban environment, and continued land clearing in agricultural areas. They are all threatening processes that affect habitat. I would hope that by listing them as threats all those industries would look at ways to mitigate some of their operations so that both can survive. As I said in my opening statement, I think planning use is the key issue and change does not have to cost jobs.

CHAIR: In your submission you say the further we move the koala in the direction of extinction the more difficult and costly it will be to reverse the trends. There comes a point at which I presume you would be saying there can be no reversal.

Mr Mucci: Yes. In some areas—in the immediate Dreamworld areas there is no reversal. That land is gone. You have eight-lane freeways, railway lines, arterial roads and other things. The little pockets that are left are gone. So you cannot do much there. But there are other good bushland areas, and that is the area I am talking about. Unless we do something about those good bushland areas there will be more roads going through them and more habitat fragmentation, which results in the koala's demise.

CHAIR: Thank you, and let us hope we do not get to that.

Senator CAMERON: Mr Mucci, have you read the Threatened Species Scientific Committee report?

Mr Mucci: No.

Senator CAMERON: I will take you to some of the conclusions and ask for your opinion on them. The Threatened Species Scientific Committee gives advice to the minister in relation to whether the species should be considered under threat. The scientific committee said that the population of koalas had undergone a marked decline over three generations. I do not think there is any argument about that. I think everyone would agree; do you agree with that?

Mr Mucci: Yes, I do.

Senator CAMERON: The committee considered that koalas could be potentially eligible for listing as vulnerable. However, better demographic data was needed to make this judgement with confidence. Do you think there is a lack of demographic data about what is happening to koalas?

Mr Mucci: I think the koala is the most researched animal native species we have. Anyone who is involved in the research side with Australian marsupials has done some form of research on the koala. So I think there is enough information out there to make judgment calls. But then you have specific areas, as I mentioned earlier. As you go up and down the east coast there are case-specific areas of threatening process that affect those bits of bushland areas. In those instances there may be more opportunity to do some more research but in general I think the koala is the most researched animal.

Senator CAMERON: That statement seems to be at odds with the scientific committee. The scientific committee is saying that there are what they call data interpretation challenges and a lack of precise population trend data in significant parts of the range of koala—you do not believe that?

Mr Mucci: I can only talk from my experience of talking to field ecologists and people who are on the ground out there and visiting bushland areas—I am a naturalist as well and I tend to spend a lot of time in the bush. It does not take a brain surgeon to think that the koala is depleting—

Senator CAMERON: Or even a scientist.

Mr Mucci: Yes. It was the scientists who said to bring in the cane toad, so they are not always right. That is just my point. I am no scientist; I am just the wombat wrangler from Dreamworld.

Senator CAMERON: The committee goes on to say that its decision not to list is based on its interpretation of the available data. The problem is that this is what goes to the minister. They say that they have taken on board the views of acknowledged experts. How can this committee have got it so wrong, from your point of view?

Mr Mucci: Maybe there is a gap in the data; I do not know. I do not feel like that myself. But, again, I am not a scientist and I do not pose to think about the rigours they go through to make their interpretation. But as the guy up north, I go through the bush a lot and I speak to field ecologists. Part of what we do is educating the community that comes to visit our site and visit the zoo and aquarium institutional sites that have koalas, and we are telling people koalas are depleting. Sure, there are areas where they are getting fragmented much faster and other areas where maybe it is just, to use Hugh Possingham's comments, death by a thousand cuts. But it is happening.

Senator CAMERON: We have had evidence to this committee about the need to balance urban development with koalas, and one of the arguments was that you can successfully migrate koalas from one area to another and in fact it can be better in some circumstances to migrate them from a stressed area with co-relationship and with urban sprawl. Do you agree with that?

Mr Mucci: Yes. We are participating in a program like that on the Gold Coast. From the information I have seen and when I go into the field with the guys doing the work, yes, that is possible.

Senator CAMERON: Obviously you are not an economist, but the other argument that is being put up is that if developmental land is affected or someone's rights to develop property on land is affected by a listing then they should have legal redress. Do you have any view about that?

Mr Mucci: My only view is, as I said in my submission, the koala is an iconic animal. It is internationally recognised. It is our reputation. If we cannot protect this animal, if it goes locally extinct in areas that are at stake internationally—if it got listed, I think we would work out all those other factors. I know we would. We are a resilient bunch, we Aussies, and I know we would work it out.

Senator CAMERON: The other evidence we have had is about the disease in koalas. What is your evidence to us about that?

Mr Mucci: I can talk from a captivity point of view, and disease does happen in captivity. From a wild perspective, I think you have had people in here talking about it. My own gut feeling is that as habitat gets fragmented those populations inbreed and basically—like the Tasmanian devil circumstance—do not have enough genetic diversity, so disease fluctuates. Stress on those fragmented communities also creates disease. But I understand that there are some good, healthy populations of koalas that also have disease. That area probably needs a little more research.

Senator CAMERON: With some notable exceptions, the predominant argument to this committee is that koalas are an iconic animal and we certainly should be protecting them. How do you deal with the point that we simply should not be dealing with this from our heart but from our head and look at the science and the economics of this—you have to get that balance and the balance has to be on the scientific and the economic approach; what is your view on that?

Mr Mucci: As I said in my opening statement, I think planning land use is the key issue. If it does get listed, the change does not have to cost jobs. I do not think it will. New developments that can showcase their koala habitat can only improve the value for people buying into those areas. I do not think change will cost jobs; it can only value add.

Senator BOB BROWN: Mr Mucci, thanks for coming along to the inquiry. What is Dreamworld's association with koalas?

Mr Mucci: Dreamworld has had koalas for over 25 years. Dreamworld is a 30-year-old business, a leisure-based company. People come to the Gold Coast to have fun and to Dreamworld to have fun, and koalas have been a big part of Dreamworld as an attraction.

Senator BOB BROWN: Why is that? From an international visitor point of view?

Mr Mucci: Yes. Twenty per cent of our visitors are international; 80 per cent are domestic, Australian. The 20 per cent come because we have koalas—because they can come and see an array of native animals, but particularly the koala.

Senator BOB BROWN: Why is that?

Mr Mucci: Because it has iconic status. I can show a picture of a koala to a child in Kenya and he will tell me it is a koala. If I show him a picture of a bilby he will not know what it is. That is the iconic status of the koala.

Senator BOB BROWN: If I remember correctly, the *Far East Economic Review* said that if the koala could not compete in the modern world it should get out of the way and not obstruct the economy. Why shouldn't the koala either compete its way through economic means into survival or get out of the way?

Mr Mucci: I do not think we can say to get out of the way, or else as humans we have not done the animal justice. I do not think that is a question. The economics and the koala need to live together.

Senator BOB BROWN: You liken the koala to the panda in terms of international recognition. But I have been around for over six decades now and it seems to me that the koala is not quite up there with some singing stars and others as an Australian icon these days. Do you think it has been relegated somewhat?

Mr Mucci: I totally disagree with that statement. When the koalas went from Currumbin to China, they averaged 20,000 visitors per day.

Senator BOB BROWN: Where was that?

Mr Mucci: In China—Guangzhou province. Their visitation went from 20,000 people a day to 40,000 people a day because six koalas arrived. So I think that that animal internationally has iconic status—has rock star status.

Senator BOB BROWN: How many koalas do you have at Dreamworld, roughly?

Mr Mucci: Right now, I will say 52.

Senator BOB BROWN: What is the interaction with visitors there? Do they get to look through a glass panel?

Mr Mucci: No. In the state of Queensland you can hold koalas. I am also president of the Queensland branch of the Zoo and Aquarium Association, and at its 28 members in Queensland there must be about 350 koalas, with Lone Pine holding the most.

Senator BOB BROWN: What is the interaction between koalas and visitors?

Mr Mucci: In Queensland a koala cannot be interacted with for more than 30 minutes per day or 100 minutes per week. That is the rule in Queensland. The reality is that for 180 minutes a week a koala would be held by the visiting public, but the reason why we have so many koalas is that not all koalas like being held. You have to base it on their personalities, and that is where the husbandry comes into it. You really need to know each individual animal. You know whether this is a 10-minute animal—other koalas want to be held for hours but you cannot do that because the rule says you cannot, so they get a bit upset when you put them back.

Senator BOB BROWN: Do they?

Mr Mucci: Yes.

Senator BOB BROWN: And is there any difference between koalas that are raised in captivity and those that are not? I imagine koalas that come from the wild are a little more skittish.

Mr Mucci: Yes, they are feistier. Wild koalas want to bite and scratch you. Captive koalas—and in Queensland we have been breeding koalas since Lone Pine opened its doors, so we have a lot expertise in breeding and husbandry of koalas. So we are talking about koalas that have been bred in captivity for 50 years. Dreamworld has three generations of koalas. They do not know what being wild is. They are captive animals and that is what they know.

Senator BOB BROWN: How do they differ from wild koalas? How is the breeding in captivity going?

Mr Mucci: Breeding koalas is easy.

Senator BOB BROWN: Is it?

Mr Mucci: Yes. You put a female that is in oestrus with a male and they just go for it. Koalas are probably one of the simpler animals to breed. But there is husbandry associated with it: diet and other behavioural technicalities where you do need specialist skills to deal with them.

Senator BOB BROWN: How about raising young koalas?

Mr Mucci: Generally no-one hand rears koalas. They are all mother reared. Then at approximately two kilos we wean the animals off mum. At two kilos if they were in the wild they would be sitting on a tree away from mum. So we wean them off and create a creche.

Senator BOB BROWN: How old are they then?

Mr Mucci: Probably 12 months. We say two kilos: it is not how old they are; it is by their weight. Some are 18 months; some are 12 months. Some grow faster than others.

Senator BOB BROWN: There is a consistency between what you say and what other witnesses say. We have heard about the breaking up of koala habitat, and you talked about railways and roads, urban development and

urban in-fill, if I am not misrepresenting you. How much influence do you think developers are having on our apparent failure to deal with the decline in koala habitat?

Mr Mucci: I think it comes down to protection. Developers work within the law. They are there to make money, to develop land for industry, to supply and service what the community needs to survive. But economics needs a bit of ecology put into it. To take David Suzuki's words, we need to get the other 'eco' back into economics a bit to create a balance.

Senator BOB BROWN: If they are working within the law, it follows—and I do not want to lead here—that the law is not protecting koala habitat, doesn't it?

Mr Mucci: Correct. That is why I think listing the koala will strengthen that in local councils, state governments et cetera.

Senator BOB BROWN: The committee tasked with listing it said 'Not yet'. Senator Cameron was just talking about that. They indicate that there is not enough evidence to be clear about population decline to the point where it should be listed as vulnerable or threatened with extinction. They have proposed that this might be a thing that will come down in the future—and this is after three inquiries. Do you think there is no enough evidence?

Mr Mucci: As I said just after my opening statement—and I can only speak from my experience as an old Sydney boy and living in south-east Queensland for the last six years—different areas have different threatening processes affecting the koala. In some areas there are reasonable populations of koalas. But in other areas if we do not do something now they will be locally extinct. Is that what we want? For me, the answer is no. Last year we had a tiger cub come from north Queensland. It was a late flight from north Queensland, and I live at Runaway Bay. I was driving to work and in front of me I could see a whole bunch of cars. It is a four-lane arterial road and there is one pocket of fragmented bush that was reserved as bushland. There were all these people on the road and a fellow waving his jacket. I pulled up and saw that there was a female koala trying to cross the road. Where was she going to cross to? You have Broadwater on the other side and a sea of houses on this side, and she is in a small pocket of fragmented bush. It is breeding season. She wants to get away from the males. In that small bit of bush there are probably half a dozen males and she is probably the only fertile female left. I quickly came over, wrangled her, picked her up and had a good look at her to see what state she was in. It was clear from her pouch that she was an infertile female; she was an old girl. The obligation is to put her back. You want to put her back into good bush but I put her back where she was because that is the law, but the next week she probably got hit by a car. There were 50 people there, all concerned about these koalas in this bush. I do not know if that answers the question but I just thought I would share that experience.

Senator BOB BROWN: It certainly points to the difficulty, doesn't it, of development without restriction into koala habitat and the fact that it is being eroded every day and every hour.

Mr Mucci: Yes. Yet literally only 1½ kilometres away there is a large reserve with 150 koalas, a good, healthy population. Why couldn't those two communities be linked up?

Senator BOB BROWN: Isn't that because there is a roadway between the two of them?

Mr Mucci: Yes, but, as I said in opening statement, we need to rethink the way we plan infrastructure and everything to consider the koala in it. When we do plan these roads and things we need to consider koalas and koala habitat and build around it somehow. I know it will cost more but we need to do that.

Senator BOB BROWN: But isn't it being considered at the moment?

Mr Mucci: In this Senate inquiry it is, yes.

Senator BOB BROWN: But I mean in building those roads. Don't they do a survey for koalas before they build the road?

Mr Mucci: Well they did not in this instance at Runaway Bay, so I do not know. It did not feel like they did there.

Senator BOB BROWN: Have you seen any economic analysis of the value of the koala to the Australian economy.

Mr Mucci: Yes. There was some research done. I do not have it off the top of my head but I can get that information. I think it was worth a billion dollars or something like that.

Senator BOB BROWN: Okay. Thank you very much.

Senator CAMERON: Mr Mucci, you say in your submission that a national task force should examine state and federal laws that relate to the conservation of koalas. I suppose if it was about national occupational health and safety or the interaction of railways between the different states it would go straight to the Council of

Australian Governments. Why should we set up a special task force for koalas but not go straight to COAG with the prime minister and the premiers. If it is such an iconic issue, why shouldn't the prime minister and the premiers be dealing with this at COAG—about getting the laws properly reflected across the country.

Mr Mucci: I did not think of COAG at the time when I wrote that, but COAG is a good suggestion so I would support that.

Senator CAMERON: It is not a suggestion; I am asking a question.

Mr Mucci: Yes, I support that.

Senator CAMERON: You go on to say in the third point in your submission—and I thank you for your submission—that the adequacy of the National Koala Conservation and Management Strategy is not good. Can you briefly take us to some of the problems with that strategy? You can take it on notice if you want to give us more detail.

Mr Mucci: I am just rereading so that I can refresh my memory of the strategy, just to pick out examples. The main point is that I felt that when you are dealing with all these different departments on the impact on koala habitat there is not a crossover where it goes into some funnel—a one-system approach whereby they could assess it. They are all little silos operating alone and there does not seem to be any overlap when they are building new roads, railway lines, et cetera. They all operate in their own way and they are building these things in their own way, and from that document there does not seem to be any opportunity for crossover or funnelling it into something. That is why I thought about a national focus group.

Senator CAMERON: Thank you.

CHAIR: Mr Mucci, thank you very much—and thanks for giving the committee probably the simplest definition yet of the term 'going for it'; that is very helpful. I do not mean to belittle your submission. I hope you feel that you have done a lot to consummate your obvious passion for the koala. Thank you.

Mr Mucci: Thank you. I appreciate the time.

MIFSUD, Mr Greg, National Wild Dog Facilitator, Invasive Animals Cooperative Research Centre

[09:41]

CHAIR: The committee now looks forward to hearing from the Invasive Animals Cooperative Research Centre. Welcome, Mr Mifsud. We have your submission. Is there anything you want to fix up in it?

Mr Mifsud: No, there is nothing I need to fix up in it.

CHAIR: Then how about giving us an opening statement?

Mr Mifsud: Sure. I am aware that this is a bit left field given the other threatening processes considered by this inquiry. In my role as a national facilitator with the work I do with communities around the country in different environments it has come to light that, whilst we know wild dogs impact economically on agriculture and industry, the impacts on biodiversity are often overlooked. I do not believe that until recently we have had a handle on just how great the impacts could be on koala populations. I do not believe that they are the key driver of decline; however, having listened to Mr Mucci and other people about the other threatening processes and having worked for Gold Coast City Council as their pest management officer—wild dogs are abundant in those environments and are using those fragmented parcels of bushland extensively to travel across the landscape. So we may be indirectly forcing koalas into competition with a top-order predator in those environments, as well as seeing major increases in abundance in rural areas that are potentially putting populations out there under stress as well.

CHAIR: When you say 'threatening processes' are you referring to threats to the koala?

Mr Mifsud: Yes.

Senator BOB BROWN: What is the difference between a wild dog and a dingo?

Mr Mifsud: Basically where it sits within the legislation of the organisation managing it. Under the national wild dog management advisory group, which I am a part of in the CRC, most state regulations consider any dog not under the control of a human to be a wild dog: that is, dingos, dingo hybrids, feral domestic dogs and even roaming domestic dogs that are causing impact.

Senator BOB BROWN: You talked about 1400 dogs being killed. What percentage of those were dingos?

Mr Mifsud: We do not have DNA back from all of those, but from our research data on dogs that were tracked in that area as part of an ecological study showed that most of them had less than 75 per cent dingo genes left in their genetic make-up—so very few.

Senator BOB BROWN: What is the source of the wild dog population then?

Mr Mifsud: Traditionally we have always had a native dog in our landscape. We have had 200 years worth of hybridisation basically since we got here and brought dogs to the country, so we have had the opportunity for dogs to consistently breed with hybrids, which has changed the ecology and the behaviour of those animals.

Senator BOB BROWN: What I mean is this. Separate to dingos we have brought all sorts of dogs into the country. How are they getting to be wild dogs—from domestic dogs to wild dogs. What is the process that allows that to happen?

Mr Mifsud: Opportunistic matings, I guess, is the key there.

Senator BOB BROWN: How does that happen?

Mr Mifsud: It is quite easy. There is a lot of anecdotal evidence that subordinate dingo bitches or wild dogs on heat that do not have a pack quite often come to homesteads and mate with dogs on chains. I had information recently of a chap outside Omeo in Victoria who was doing fencing and his dog was with him one minute and gone the next. He thought he had better look for him and he was over the ridgeline knotted up with a wild dog on the edge of the bushland.

Senator CAMERON: Is that a technical term?

Mr Mifsud: I was going to use another technical term that comes from your part of the world but I thought I had better not.

CHAIR: I am sure it is publishable, so go for it.

Mr Mifsud: Yes, it is dog-breeding terminology. So there is an opportunity there.

Senator BOB BROWN: They are dogs who temporarily get out away from controllers. What proportion of the wild dog population are dogs that leave domestic control—get away from homes or stations and do not come back or are used by hunters and do not come back?

Mr Mifsud: It would be a very small proportion.

Senator BOB BROWN: Is it?

Mr Mifsud: Yes. That will increase the closer you get to peri-urban and semi-urban environments where there is a greater proportion of dogs that are dumped or not looked after frequently using the landscape. But when you go further west in more rural areas the majority of dogs—and we have photographic evidence of most of those dogs captured out at Charleville—they are of a wild dog or dingo type nature.

Senator BOB BROWN: That is interesting because in Tasmania by the 1880s there were more wild dogs that had no dingo in them than there were tigers. Right out in the most remote places now you will hear dogs in the landscape that have gotten away. But you do not think that is happening on the mainland.

Mr Mifsud: No, not here. Not from the genetics in the dogs we are getting—there are very few dogs, even pig dogs and those types, they are just not capable of surviving for long periods out there without support. A lot of dogs like that that do go wild generally succumb to control very quickly because they are hanging around livestock or close to homesteads.

Senator BOB BROWN: Koalas in their millions survived successfully with dingos for thousands of years, at least 2000 years. Why would wild dogs be a problem for them.

Mr Mifsud: Because wild dogs are adapting to the modified environment that we have created. That is basically what it comes down to. There is no doubt that with any modification to an environment there are species that can thrive and adapt and others that do not I have given you some information—and I will table this, if I can—that is a summary of the Charleville, Murweh Shire dog program that I am basing a lot of this on. In that area we have taken out nearly 2100 dogs in two years—wild dogs confirmed with scalp returns or trapped and shot by contract dog controllers. There is no doubt that in that area macropod numbers are quite high because they can survive quite well in the modified environment with permanent water, increased land clearing, more grass and therefore greater habitat availability for prey species. So we have a top-order predator that is thriving on the over-abundance of native prey species but at that density is bound to have an impact on other, less abundant, native species. To this situation you add the climatic conditions of drought that Clive McAlpine and Leonie Seabrook provided you in a manuscript the other day. You have drought and seasonal conditions forcing koalas to the ground to evade heat, potentially increasing interaction with and the chance of predation by an over-abundant top-order predator in that environment. I think that that is the interaction we are seeing.

Senator BOB BROWN: I have read your written submission but can you just tell the committee in short what you think the impact of wild dogs on koalas is.

Mr Mifsud: It depends on the environment but I think it is quite large. I think it has gone under the radar for some time. Through my involvement recently with Deborah Tabart from AKF, I raised this issue with the researchers out at Charleville and they had not even considered wild dogs as an issue. When I told them of the numbers that we got out of the immediate area that they surveyed they were quite shocked that the potential was there for that decline and they had not considered it. I think it is underestimated. In the Brisbane area, for instance, the data on dog attacks on koalas shows a decline in the Koala Coast area in the shires south of Brisbane. There is no dog issue there. North of Brisbane the data shows that the number of dog attacks is still considerably high. We have dog abundance there that is absolutely ridiculous. Moreton Bay Regional Council controls dogs 365 days a year. Impacts on livestock and pets are recorded but impacts on biodiversity are not. So I think there is a huge potential there for impact.

Senator BOB BROWN: If you were to study the impact of dogs to get a better handle on their impact on koalas, how would you do it? Do you look at the stomach contents of killed dogs; what do you do?

Mr Mifsud: There are a number of ways to do that. For starters you need to have information on the koalas and their density and distribution. Secondly you can use scat analysis. Hair from different marsupial species has almost a signature, so you could analyse the scats to look at whether they have been consumed or preyed upon.

Senator BOB BROWN: Has any of that been done?

Mr Mifsud: To a certain degree it has but no-one has looked specifically at koalas; it has been more broad ranging. Guy Ballard, who works with the CRC out of northern New South Wales has a whole heap of scats to analyse now but resources are preventing that. Considering the density of dogs in the Port Macquarie and Kempsey area and the scarcity of koalas it would be interesting to look at. So there are ways of doing it. The invasive animals CRC in its rebid application is looking at doing a peri-urban wild dog ecology study to look at just that—looking at densities, source areas, wild dog movements throughout the landscape and how they are using the landscape, and then looking at prey. That is another option.

Senator BOB BROWN: What about cats and their potential impact on koalas? Is anything known about that?

Mr Mifsud: Not to my knowledge. I would not think, and as an ecologist as well—I worked on Julia Creek Dunnart cats in western Queensland and I do not think that cats, apart from perhaps preying on some of the juveniles, would get the opportunity. They are generally what they call a critical weight range specialist. They prey on mammalian species between about 10 and 500 grams. A large rabbit is probably at the upper end of the prey that they would take physically. I do not know whether koalas would fit into that.

Senator BOB BROWN: Thank you.

Senator CAMERON: Mr Mifsud, is your submission on behalf of the invasive animals CRC?

Mr Mifsud: Yes.

Senator CAMERON: I want to get my head around exactly what the CRC does. It does scientific research, doesn't it?

Mr Mifsud: It does a range of things. It does scientific research on vertebrate pest management. Incorporated into that is extension and development. That is part of my role. My role is primarily an extension role. They are also involved in product development for control. They are developing control products for all of the pest species. Really it about getting a more holistic approach to management—looking at community and landscape based management for a range of species.

Senator CAMERON: And you have a number of qualified scientists working for the CRC?

Mr Mifsud: Yes.

Senator CAMERON: Did the CRC put a submission into the inquiry by the Threatened Species Scientific Committee on koalas?

Mr Mifsud: I do not believe so, no.

Senator CAMERON: Did the Threatened Species Scientific Committee contact your organisation when it was looking into the threats to koalas?

Mr Mifsud: I do not believe so, no.

Senator CAMERON: The Threatened Species Scientific Committee says it had called for submissions and spoken to a number of groups—but not you?

Mr Mifsud: No. When was that? I have only been with the CRC since 2007 in this role.

Senator CAMERON: I think the report came out in September 2010 so I would assume it was through the period of 2010.

Mr Mifsud: I am assuming that they would have looked at Dan Lunney. New South Wales has listed feral dogs—that is another derivative—as a key threatening process through predation on a number of native species, including the koala.

Senator CAMERON: Would your organisation have the most knowledge about the threat to koalas from wild dogs?

Mr Mifsud: As Mr Mucci said earlier, the koala is probably one of the most studied marsupials in the country. A lot of the conservation agencies in each state have looked at threatening processes. I know that in New South Wales there has been a considerable amount of work looking at predation as one of the issues. But nationally I do not believe there has been a lot of work looking at dogs as a specific predator of koalas or their impacts.

Senator CAMERON: But dogs are an invasive species.

Mr Mifsud: Yes.

Senator CAMERON: Your organisation's job is to look at invasive species. Would you have expected that if there was a scientific analysis taking place of threats to koalas a scientist who was looking at that threat would come to the invasive animals CRC for your expertise?

Mr Mifsud: If they had recognised that wild dogs were a threat. I think that is part of the issue.

Senator CAMERON: So you think they may not have even recognised that they are a threat?

Mr Mifsud: I do not think it has been considered a serious threat to the population. I guess that is the reason why I have brought this to the table today: to put it to you guys that this is a serious threat. Wild dog numbers appear to be increasing. Their impacts on production are increasing, and a lot of those production areas occur in the same areas where koalas are suffering decline.

Senator CAMERON: What would be the CRC's capacity to conduct a scientific study into that threat?

Mr Mifsud: I think it would have a huge capacity if it exists after 2012. The CRC ceases to exist—

Senator CAMERON: Well 2012 is a year away. I am talking about—

Mr Mifsud: Immediately?

Senator CAMERON: I am taking about now.

Mr Mifsud: It would have the capacity now. We already have research projects in place that are looking at the efficacy of different control techniques on wild dogs, cats and foxes in areas of northern New South Wales, where they are already collecting data on native species abundance and impact. So there would be the capacity to get some initial information on that reasonably soon, I would imagine.

Senator CAMERON: So if the Threatened Species Scientific Committee wanted to make a serious study of the threats to koalas and wanted to look at the threat from invasive animals, you would be in a position to very quickly set up a scientific study to advise the scientific committee on this issue?

Mr Mifsud: I believe that the CRC would have the capacity to do that, yes.

Senator CAMERON: Do you have any idea why that would not have been done before now, given that there have been three inquiries by the scientific committee over a long period of time into the threats to koalas.

Mr Mifsud: I have a couple of theories. The first is that dogs are generally looked at as threatening or having an impact on agriculture, so it is very difficult to get money to look at their impacts on biodiversity because, as Bob said, they are considered part of the environment and there is a question about whether we should be looking at their impact on other native species. So it is very difficult to get funds for that sort of work. The other thing is whether they were considered a serious threat and whether the scientific committee really looked at dogs as being part of the problem.

Senator CAMERON: This might be a very difficult question and you may have to take it on notice. What would be the cost to produce a good scientific report on the threat of invasive animals on koalas, and how long do you think that would take? So I am asking about cost and length of time.

Mr Mifsud: I would have to look into the cost. I can give you an example. The project we are looking at on wild dog ecology in peri-urban environments is a three-year project. We need around \$500,000 to \$600,000 a year for that project. If you were going to value add to that and look at koalas, we would need to look at partnerships with other organisations that have the skills in koala ecology and look at an increased investment in that project to expand the scope. But I would have to look at that.

Senator CAMERON: So you guys would be the experts in the vertebrate threats to koalas but you would need to talk to the other scientists who were experts in koalas to bring it all together?

Mr Mifsud: That would be right.

Senator CAMERON: So we would have to get a real co-operative approach wider than your co-operative?

Mr Mifsud: Absolutely. Mind you, we do have participants in the CRC who currently have that expertise. So it would still fit within the expertise of the CRC. We have institutional participants in the CRC. We have conservation agencies as well. So the expertise is already there and a lot of people, including me, have worked on vertebrate pest control programs looking directly at the impacts on native species like tiger quoll. We do have the expertise. But to get anything meaningful you would have to look over at least a three- to five-year period, and therein lies the dilemma.

Senator CAMERON: Would that be the dilemma that the Threatened Species Scientific Committee would be dealing with? They are saying 'We don't have all the scientific evidence, so we can't make decisions on this'. But the bulk of the evidence we are getting here is that the scientific evidence is unclear but the anecdotal evidence is extremely strong that there is a threat.

Mr Mifsud: I was just going to raise that as a key issue that we struggle with in wild dog management. The emphasis on empirical data and quantitative data scientifically has moved the scale and the goalposts considerably from the value of anecdotal evidence. From a wild dog management perspective where we are looking for funds from state agencies, federal agencies and so forth, it is very hard to argue against scientific data when you have communities saying 'We've had sheep in these areas for 100 years and we've never had to de-stock because of dogs until now'. So where do you put the value? The scientific data may not support that but 100 years worth of information from communities says that wild dogs are worse now than they ever were. I wonder how much of that has spilled into this argument that you are talking about: how much value do you put on scientific data? As a scientist coming from a research background, you would have to have thousands of projects going out there looking at a range of things at the same time to get sufficient data at the end of it to make an informed decision.

Senator CAMERON: I am now wondering whether the act is deficient and whether directing the minister to deal purely with the scientific committee on these issues means there is a deficiency; and whether the anecdotal

and the practical experience out in the field is being given enough weight in relation to a species that could be under threat when scientifically you cannot prove it but the anecdotal and field evidence is basically there.

Mr Mifsud: Yes. It is an issue we struggle with nationally in the wild dog management field as well.

CHAIR: In the wild dog management field, do you disagree with the supposed scientific evidence in your wild dog backyard?

Mr Mifsud: We do not disagree with it but the issue is how much scientific evidence you need to formulate decisions when you have significant anecdotal evidence that complements what we are seeing on the ground.

CHAIR: So is your anecdotal evidence on wild dogs consistent with the scientific evidence to the extent that there is scientific evidence.

Mr Mifsud: No. I guess the issue we struggle with is that communities impacted by wild dogs and townships in decline because of the loss of an industry such as the sheep and wool industry are saying that, despite economics, wild dogs are the last straw. Then when it comes to trying to source funds, say from Caring for our Country or other industry or federal things the scientific data says 'No, they're all native dogs; they don't have an impact'. It goes on and on, but I guess if you want to look at the science and make a decision based on science when we have regional communities that have gone from thriving country towns because of an industry that has been decimated because of an invasive pest, it does not stack up. The anecdotal evidence says that wild dog numbers are increasing and they are causing major impacts on communities, but the scientific data does not stack up with that, so we do not get the funds to manage dogs in that area.

CHAIR: So you are disagreeing with the scientific evidence on wild dogs, aren't you?

Mr Mifsud: Yes. It depends where you are coming from. There are people who have done science to show that wild dogs are having an impact.

CHAIR: I mean you personally.

Mr Mifsud: Yes. In some instances when you are looking at trying to get funds to manage wild dogs for biodiversity it is very difficult because the perception out there is that the dingo is part of the environment and we should leave it there. The fact is that the dingo we used to have is no longer there in many instances; we have a wild dog. We have a wild dog population that is far greater than it ever was in a natural situation. Therefore the predation that it imposes on a range of species is greater than it ever was naturally. And for a species like a koala that is already under stress, that additional predation has major impacts. On eastern grey kangaroos that are overabundant as they are here because everything is better for them, it does not matter. But for everything else the impacts are great.

Senator CAMERON: On this point about the dingo, isn't this a clash of the icons: the koala on one hand and the dingo on the other? I am sure that if we conducted an inquiry into dingoes there would be people coming with equal passion arguing that the dingo is an iconic animal and we should protect it. How do you deal with that?

CHAIR: Some in this room, I think, Senator Cameron, from the head nods.

Mr Mifsud: It is all about balance and sustainability. There is a role for a wild dog, be it a dingo or a wild dog, as a trophic and upper-order predator or regulator. I have no doubt about that. It is about managing their numbers at a level that is sustainable for industry, biodiversity and the environment. What we have out there at the moment—2100 wild dogs trapped and shot from an area less than 1000 square kilometres—is not a natural density.

Senator BOB BROWN: You have a map here which indicates a koala population decline of 85 per cent since 2002. How do those areas overlap—the areas where the wild dog trapping is being—

Mr Mifsud: If you go to the back, there is a map produced by the Australian Koala Foundation. That map looks at the key primary habitat for koalas in that location. The wild dog control events information is just for the first 12 months of the wild dog program in Charleville. The wild dog controllers have to use a data logger with a GPS so we can record their activity. Each of the stars on the map indicates where dogs have been trapped in that landscape. The number two indicates the dogs have been shot. As you can see, the dogs are using consistently parts of the landscape preferred by koalas.

Senator BOB BROWN: Why is that?

Mr Mifsud: Drainage lines, established timber, water courses—

Senator BOB BROWN: So the dogs are using the cover of the country that the koalas are in?

Mr Mifsud: They are using the cover and it is easier to move along. Wild dogs will not go anywhere they will hurt their feet and they are particularly lazy. They will use the easiest route to travel from point A to point B. Dry

creek beds is a classic example: nice soft sand. We have the same issues in increased fragmentation of landscapes around Roma and the Western Downs. We now have all these additional gas pipelines and access roads that have fragmented the landscape but have given dogs a superhighway to get from point A to point B in no time at all. So we have increased the ability for dogs to move as well.

Senator BOB BROWN: How is that impacting on koalas?

Mr Mifsud: Potentially it is exposing the koalas to wild dogs on a more frequent basis. If they have to cross a road or whatever to get from point A to point B and the dogs are padding up and down the roads frequently, they could be encountering koalas even more frequently just opportunistically in a way that may not otherwise happen. But in the instance of Charleville, that 85 per cent decline—and I have provided a bit of a summary there—the manuscript provided to you guys in Brisbane from Clive McAlpine discusses this population in particular. At that time those researchers did not consider wild dogs as a threat. But koalas get stressed under prolonged heat. They avoid that behaviourally by coming to the ground and sitting on the ground in the shade. Are you really going to do that when there are potentially 2,000 dogs in the water courses in the same habitat waiting to chew your butt when it hits the ground? I do not think so. So these koalas may have increased their mortality just by staying in a tree to avoid those predators.

Senator BOB BROWN: That is interesting. You are not saying that the only threat dogs pose to koalas is by eating them. It is actually altering their ability to—

Mr Mifsud: To regulate.

Senator BOB BROWN: rest and move and be safe in their—

Mr Mifsud: It is changing their behaviour, yes, absolutely. And at the coast, all those habitat and movement corridors are still being used by wild dogs, which are probably in greater abundance once again. In those environments if they chase a swamp wallaby for two kilometres and they do not get him they do not miss out on a feed; they jump over someone's fence and go and eat a bowl of Meaty Bites. So they get a feed and they raise their pups—I can see someone laughing. A lot of people in those semi-urban environments do not even think they have a wild dog problem until Fluffy gets chewed up in front of the kids on the back porch. I have seen it at Gold Coast and at Moreton Bay Regional Council. If they see dogs walking the landscape at night-time they assume they are just someone's domestic dog without a collar. I am passing around some information from a submission to our wild dog review in Queensland from Moreton Bay Regional Council just on the wild dog issue in that semi-urban environment. Local governments, particularly in those peri-urban areas where it is so emotive—when Fluffy gets chewed up, we get a phone call or a petition that council needs to control wild dogs and they want to obliterate everything—have very good data about where those attacks and incidents occur. As we have done with the AKF in our map we could start to plot and map a lot of that information so that the scientific evidence—well, it is still anecdotal I guess; it is data that has been collated and collected by local government officers, not scientists.

Senator BOB BROWN: But the committee had clear government evidence in Brisbane that hundreds of koalas have been killed in urban areas by dogs and this toll continues. Do you know why a scientific committee advising the federal government has not looked at the impact of dogs in the wild, or what difference there is between urban dogs and wild dogs that might have led anybody to believe that wild dogs would not attack or affect koalas?

Mr Mifsud: I think it just comes back to the fact there is not enough knowledge in the community that there is a dog problem. That is a big part of my role. We have wild dog planning programs happening at Mount Mee where a big part is informing residents that they have wild dogs in their midst, living and sharing in that environment, and need to manage that proactively by something as simple as locking up their chooks before the dogs kill them. It is not commonly known that there are dogs living in those environments so close to urbanisation. I do not see it as a surprise that the community did not think to look at that as issue, because all of the koala dog attacks that are recorded are assumed to be domestic because most of the people who find those koalas, if they do not have a domestic dog chewing on them, just assume that the only dog capable of doing that is someone's pet. So there is a real lack of information and knowledge amongst semi-urban residents that they have wild dogs living in the landscape—until they have an incident, as I said, where—

Senator BOB BROWN: It sounds to me like lack of logic in some scientific circles.

Mr Mifsud: It could be—or a lack of a broader view of the issue. That quite often occurs. I come from academia where my supervisor studied dasyurid marsupials for all her life and was very focused on just that. Sometimes something like this that is quite left field just gets left out of the equation.

Senator BOB BROWN: I have been in the situation where a dog has jumped over me and snapped the neck of a bandicoot right next to me.

Senator CAMERON: Some people might think it had got the wrong target.

Senator BOB BROWN: We are friends. I am just amazed.

Senator CAMERON: I am not saying that is my opinion.

Senator BOB BROWN: Maybe I would have preferred myself that bandicoot had been spared. It is an incredible piece of information that this committee, through you, is contributing on the plight of the koala, and I thank you very much for it.

Senator CAMERON: I want to look at what you have raised from a different angle: the role of industrial development and mining in relation to the preservation of the koala. Have any of the existing mining companies or any of the prospective companies that want to exploit gas ever contacted your organisation?

Mr Mifsud: Probably not the CRC directly. Each state has its relevant statutory body that deals with vertebrate pests and I would imagine—and I know this is the case in Queensland—local government under our legislation is responsible for pest control for class 2 and class 3 pests. Wild dogs fit into class 2. They liaise and deal with local government in managing pests on any of the land they buy or any of the operations they undertake in that shire. They would not deal directly with the CRC on this particular issue; they would deal with the regulatory body in each state.

Senator CAMERON: But for a mining company that wanted to try to control vertebrate pests in your mining lease, wouldn't you be the best people to talk to?

Mr Mifsud: No, I do not believe so.

Senator CAMERON: So you would not be able to give them advice about how to control or the best thing to do—

Mr Mifsud: We would but the same advice would be given—a large part of what we do is develop best practice, and that best practice is disseminated amongst the states and the other participants. The best practice we develop, we would hope—and I can say for a fact with dogs—is being rolled out within local governments as the entities responsible for management. A lot of the work the CRC does is really about developing the best practice and making the public and land managers aware of what best practice is and how to implement it on the ground. Those mining companies would be dealing with the regulatory body for that particular area, which would be undertaking best practice management in accordance with work that has been developed through the CRC.

Senator CAMERON: Do you know whether that is being done?

Mr Mifsud: I do believe it is being done now. Again, I guess it is the juggernaut effect. It is getting in there, getting it all done, getting it set up and then looking at what we have to do. That is part of the issue that is being raised here. A lot of these approvals are provided on the provision that you do this, this and this. But quite often the additional stuff gets done after everything is set up. We have instances in Queensland where workers with various mining companies have cut the wild dog fence to get from point A to point B and have not gone back to repair it—things like that. That upsets the community no end—when you are a sheep producer on the inside of the fence and you find a whopping great hole cut in it where a D-10 has gone through. That is slowly starting to get better.

CHAIR: You would want help from that wild dog that Senator Brown saw.

Mr Mifsud: As long as he is not killing sheep and he sticks to bandicoots they probably do not mind.

Senator CAMERON: If a company wants to develop, is there an international best practice approach that you are aware of. Is there legislation anywhere? You may not be the person to ask this. What I know personally is that in the north of Scotland the Forestry Commission employs people to basically shoot pests. That may not be a good thing. Some people may say that we should not do that. But that is a measure used in the north of Scotland to control pests. Is that done in a systematic way here.

Mr Mifsud: What we try to do here is what we call integrated pest management. No one technique will manage a pest to a sustainable level. A large part of what I do with communities and local governments is to look at a more proactive approach looking at different forms of control. Our cheapest and most cost-effective and environmentally sensitive control technique is still 1080 baiting for wild dog and fox control. In addition to that you have trapping, fencing and finally shooting. Shooting is extremely opportunistic. It is very difficult to implement a proactive program of shooting in the environments we deal with. The target species, in this case dogs, do not make it easy, either. Wild dogs try to avoid human interaction, so they are not going to sit out there and wait to be shot. What we promote is a roll-out of a variety of techniques across the landscape that is amenable to the community and the stakeholders involved. That may be, for instance, a buried baiting program to take out foxes and dogs on the ground where you have access on trails. It could be aerial baiting in some areas where you

have limited access and much more isolated country. The employment of a professional wild dog controller, as we have done out at Charleville—and then opportunistically landholders and other people might shoot dogs when they see them. That is best practice.

Senator CAMERON: Thanks for your evidence. Certainly if you need any support to maintain funding, I am there because I think you are doing a great job.

CHAIR: Mr Mifsud, I have a question from left field before we let you return to the very important battles you need to fight. Aside from wild dogs eating and threatening things other than sheep and koalas, are there any other animals or things that wild dogs consume, get rid of or kill that pose a threat to the koala? Can it be argued that wild dogs are reducing one or more of the threats that would otherwise exist for the koala? I cannot image so but I have to ask.

Mr Mifsud: No. They are the top-order predator so they are at the top of the tree in predation. There is no other species.

CHAIR: Koalas?

Mr Mifsud: No, wild dogs. There has been some work done and there is a bit of a theory that wild dog exclude foxes, which could have an impact on koalas. A lot of that work has been done in extremely arid areas of central Australia, very simple environments where that interaction could be quite great. But on the east coast we have increasing evidence that dogs and foxes are coexisting in forested country where koalas exist. There is very little exclusion. I do not believe that dogs are really imparting that much pressure on foxes. In fact with one of the translocation projects that Mr Mucci mentioned earlier at the Gold Coast they have remote cameras set up in a reserve where dogs have reduced the translocated population of koalas by 20 per cent and the resident population by 20 per cent. They have remote camera footage of wild dogs and foxes travelling on the same tracks 10 minutes apart. If you look at other systems you will see that smaller predators tend to scavenge after the larger predators. I think we are probably seeing a lot of that happening in the eastern forested country. Does that make sense?

CHAIR: Yes, very much so. You are indeed the witness who keeps on giving.

Mr Mifsud: I have plenty to give.

CHAIR: Thank you very much.

ALLEN, Mr Chris, Private capacity

[10:23]

CHAIR: Welcome, Mr Allen. We have your submission. Is there anything you want to change in that?

Mr Allen: There was just one word missing from page 18, line 2.

CHAIR: Can you be any more precise? What was that word?

Mr Allen: 'No'—'with no published data'.

CHAIR: A key word in that context.

Mr Allen: Indeed.

CHAIR: Would you care to make a brief opening statement.

Mr Allen: Thank you. As I said in my submission, I have lived the history of koala conservation efforts in south-east New South Wales for the past 20 years. I was a representative of the forests conservation movement through the 1990s. Since then I have been employed by the New South Wales Office of Environment and Heritage working primarily on initiatives related to koala conservation. With that background, I felt it important to share with the committee what I know. I come as a private individual, but I am also a public servant and some of the experience and information I have gained in this role has flowed into my contribution. One of the things I want to emphasise about the surviving koala population in south-east New South Wales is that they live in forests growing on rugged, hilly or mountainous terrain, generally in areas with infertile soils. The koalas are using all aspects of that terrain: the ridges, the mid-slopes and the gullies. Within a resident population the koalas are widely scattered, each animal occupying a home range of tens of hectares, sometimes more. These are functioning low-density populations. The koalas have worked out how to survive in this country. They have complex feeding strategies. They select specific trees for specific reasons from a diversity of species in complex terrain. The bark-chewing behaviour that we have recently confirmed on the Southern Tablelands just highlights the complexities of their foraging strategies. One of our problems has been the perspective that the habitat sustaining these populations is marginal—not really worth protecting like the fertile flat areas. I disagree. Koalas have always been there, and these areas are now the backbone of their conservation in this part of Australia.

Of the three populations I mentioned in my submission, I refer here to two of them. One is the population on the Southern Tablelands. These are the bark chewers, or some of them are. They are in rugged, cold, relatively dry country in habitat that largely grows on skeletal and infertile soils. But this population is stable and probably recovering. It is a testament to the species capacity to live in areas where many think they should not be. On the other hand, what has happened to the koalas on the far South Coast is a fairly grim tale. We are close to losing them. Given the history, the ecology and the geographic location of this population, this would be a disaster. We can probably pull them back. We have to give it a go. But we need all the support we can get. There are some bright spots in this that may give some cause for optimism. After years of disagreement, we now have a method to find out and really monitor what is happening to these populations. Using that method, we have mapped the distribution and assessed the abundance of what is probably the last population on the far South Coast. Importantly, that information is freely available and accepted by all parties. The decisions that get made—and there are still some major ones ahead of us—will be made with that information firmly in front of the decision makers as they evaluate the options. That information needed extensive and painstaking work in the field, and this needs to continue. That is one of the issues: it is a huge amount of work finding out what is going on with these low-density populations. The community contribution to this has been phenomenal. More than 400 people have now been involved in the fieldwork searching for koala pellets through forest litter under more than 30,000 trees over more than 40,000 hectares of forest. The agency/university/community model—and the Koori community is the most important part of that partnership—is worthy of broader attention. But we do need to be more integrated into a national strategy. We do need a national implementation body that has teeth and has the funds to properly implement the strategy's actions.

CHAIR: I think you said the koala numbers in the Southern Tablelands appeared to have increased. You said something to the effect that this shows that koalas exist in areas where people think they should not. By 'should not' do you mean they should not because they should not be able to survive in such rugged terrain, as opposed to meaning they should not be there because they just should not be there?

Mr Allen: Also the species mix—Some of the eucalypt species that are present there, and that I am sure they are feeding on, are not actually listed as koala feed trees. So they are feeding in habitat that we would not have expect them to feed in.

CHAIR: So 'should not be there' because we would not have expected them to be able to survive there.

Mr Allen: Yes. Perhaps that is a poorly—

CHAIR: Not at all. Thank you for your opening statement.

Senator BOB BROWN: Mr Allen, your submission says: 'The extent of the intended intensive logging of forests on the South Coast sustaining the core of the koala population would undermine its recovery potential.' Can you elaborate on that?

Mr Allen: The map I presented in my submission indicates the areas where we have located evidence of koalas and the levels of activity at those plots. Very clearly from that map the heart of where this koala population is in Mumbulla State Forest. It extends into the Murrah State Forest and then into adjoining national parks. But the heart of it and where the recovery—if there is a recovery happening—is in Mumbulla State Forest. The timber resource in that area is committed to the industry under the regional forests agreement—approximately 40,000 cubic metres of sawlogs is committed to the industry. My view is that anything less than a substantial reduction in the extent of logging activity in that area will almost certainly make that population go extinct. One of the reasons I feel that is that even though we have identified koala activity in areas outside those state forests there are only a very few animals there. Much of it is in habitat that was already logged 20 or 30 years ago. My sense is that the population in the northern areas of that study area will not survive without recruitment of other koalas migrating into that area. The only area we know of that they can come from is those state forests.

Senator BOB BROWN: I get from your submission that the problem is that koalas depend on old trees, big trees—it is not known, for example, whether they can live associated with regrowth forest—and it is those same trees that the logging industry needs to get that 40,000 tonnes from.

Mr Allen: In the work we have done, we certainly have picked up evidence of koalas where there is predominantly regrowth. But we find koalas are using the larger retained trees. Certainly forestry's own data indicates that koalas are demonstrating preference for trees that are over 300 millimetres diameter at breast height, which is starting to reach the size when it can be logged for sawlogs and is certainly the sort of timber that has been logged. There is a clear clash of interests here between what the koala wants and what the industry wants.

Senator BOB BROWN: Cutting to it directly, is koala habitat being logged?

Mr Allen: In south-east New South Wales?

Senator BOB BROWN: Yes.

Mr Allen: Almost certainly yes. Probably the habitat is empty. We are not certain of that but probably the habitat is empty. It depends on our definition of koala habitat. If we go by the definition that is in the New South Wales koala recovery plan, which identifies a suite of eucalypt species that koalas feed on, then most certainly in the past 10 years or so, and longer, koala habitat has been logged. It is an ongoing process.

Senator BOB BROWN: But if the potentially logged areas are empty, why would logging them threaten the koala?

Mr Allen: We have a population of 30, 40 perhaps 50 koalas at best. They are mainly in an area which has had no human impact for 30 years or so, and that is important. It is that absence of human impact that is important. The numbers have got to come back. That is not a sustainable number. That population does need to expand. We can probably indicate the directions and areas that the population will expand into, provided recovery can occur. So an empty habitat is really important.

Senator BOB BROWN: Because in the future it needs to become a populated habitat.

Mr Allen: Absolutely.

Senator BOB BROWN: Can you tell me something about the relationship between Indigenous people and koalas?

Mr Allen: We commissioned a report from an anthropologist who investigated the relationship of the koala Dreamtime ancestor with Indigenous communities in eastern Australia. Her conclusion was that the koala was a very, very significant spiritual ancestor in Aboriginal culture, perhaps much more important than we realise. The koala is, in Aboriginal culture, very closely associated with water. In many parts of eastern Australia there is a key story about how the Dreamtime ancestor, the koala ancestor, was offended and stopped the rain, dried up the rivers and took away people's drinking vessels.

There are variations to the tale, but in essence the Dreamtime ancestor was approached by the people and an agreement was made that the koala would never be hunted for its skin. On that condition, the koala brought back the water. When I think of our impact through the skin trade I cannot imagine the grief of Aboriginal people as they witnessed what has happened with the skin trade.

Senator BOB BROWN: Because they did not hunt koalas for their skin.

Mr Allen: They did not hunt koalas for their skin, no.

Senator BOB BROWN: I am very interested in the bark-eating phenomenon relating to koalas. Could you just tell the committee, briefly, about how that was found and what its significance is.

Mr Allen: It was initially observed by landholders east of Bredbo and north-east of Cooma. These people had a voluntary conservation agreement over 2,000 hectares. They were aware of koalas there. One of that group had observed these very, very distinctive chew patterns on the trees. He, after a lot of thinking and observation, concluded that it had to be koalas doing that. He did approach other scientists about it and they advised that they did not accept that koalas would be doing that. The landholders contacted me and one or two other people. This was a few years ago now. We went there. We too concluded that it had to be koalas that were doing that. We did a bit of a presentation to the Mammal Society on it, but the word came back that we had to prove it. In the end we got movement sensitive UV cameras put up and got the footage of the koalas actually eating the bark. We have since observed this happening over at least 10,000 hectares. These landholders have observed it for at least 20 years. We have located evidence of mothers and their young at the chew tree sites. The chew marks vary. Some are just nibbled a little bit and others are massively chewed. It is absolutely extraordinary that this feeding strategy has never been observed before.

Senator BOB BROWN: So, actually, they are not just chewing it; they are swallowing it, taking the bark in.

Mr Allen: Yes. We will run a project with the ANU on this to try to find out what is going on. Our best guess is that within the sap flow of the tree there is a mix of nutrients, minerals and moisture and probably they are accessing one or a suite of minerals to assist with their digestive process. That is my best guess.

Senator BOB BROWN: How deeply into the tree are they chewing?

Mr Allen: They are just getting to the cambium layer.

Senator BOB BROWN: Are they eating the bark itself as well or are they eating that cambium layer?

Mr Allen: They are eating the bark itself. You do see the frass of chewed bark around these chew sites, as though they are chewing and chewing and spitting it out and then chewing some more.

Senator BOB BROWN: So they may not be swallowing it.

Mr Allen: They are certainly swallowing something. I am confident about that. But they would not necessarily be swallowing all of it.

Senator BOB BROWN: So it is not a quest for fibre.

Mr Allen: There is an awful lot of fibre in eucalypt leaves.

CHAIR: In any event, you would have thought so.

Mr Allen: The other thing about it is that it is clearly strategic on their part. They are selecting a specific tree species, one of a suite of trees, and repeatedly they target that tree. Then they come back. Where these trees are massively chewed it is incredible: there are chew marks from top to bottom. The tree goes into a period of stress and I suspect that at that point the chemical content of the tree—I am not sure of the botany—is changing. It is more nutritious. So perhaps as they chew more it becomes a more important part of their diet.

CHAIR: It is a concentrated resource.

Mr Allen: Yes.

Senator BOB BROWN: Is that tree just located on the southern tablelands, or the Monaro, or is it located elsewhere in the country?

Mr Allen: The tree species is more widespread but we are not aware of this chewing activity elsewhere. There is one person who has got back to me, an ANU academic, saying he is pretty sure he has seen it out near Bathurst as well. I suspect it is more widespread; it is just something we have not noticed before.

CHAIR: Senator Brown, I do not know if you were going to ask this, but what happens to those trees at the end of the koala day?

Mr Allen: At the end of the koala day?

CHAIR: The tree goes into a period of stress, whereafter the koala likes what it can get from the tree even more. Does the tree ultimately die?

Mr Allen: I have seen one or two trees that have been so heavily chewed that they have eventually died, yes.

CHAIR: So it is not like a horse ringbarking a tree. They strip it entirely, do they?

Mr Allen: No, it seems to be more just the chew marks. They do not ringbark the tree. They have a chew mark here and a chew mark there and they just work their way up. My sense is that, whatever is happening with sap flow, gradually the canopy of the tree gets thinner, so it starts to drop its leaves in response.

CHAIR: Say there were greater koala numbers in the areas where they are chewing on the bark of these trees. You are saying at the moment that you have observed one or two trees dying. If there were a greater density of koala numbers, is it fair to conclude that they would kill more trees, essentially, by eating the bark?

Mr Allen: This is one of the things about low-density populations like this one. I think it is actually fully occupied. The koalas will define their own home ranges. They are pretty territorial. Those home ranges do not have much of an overlap. I think there is a matrix of home range areas across this landscape, so the young are dispersing from there. That is what is going on. I think it is unlikely that you will get higher densities within that area. There is a really important biological process going on. I do not think that that habitat is ever going to be threatened by the koalas being there.

CHAIR: What if we, in trying to do good, encouraged other populations of koalas to move to an area where we thought they were trending up? It sounds like that would be foolish. Could we make that mistake or do you think we know enough to not make that mistake?

Mr Allen: Are you thinking about introducing koalas into an unoccupied area?

CHAIR: Or occupied, with the idea that it is able to sustain a greater density.

Mr Allen: There are two ways of looking at this. I have thought about this a lot in the case of the far South Coast. In introducing koalas into an area there is a strategy which we call population augmentation. You reach a point where koala numbers are so low that you have to put some more in there if the population is going to survive at all. So that is population augmentation. The other strategy is to say, 'Gee, we've only got one population left down on the far South Coast. We need to establish another one. Where is some empty habitat that we think will work? Let's see if we can introduce koalas there.'

I am open to that as an approach. I am aware of a view, held very strongly by a number of people, that we should be doing that. It is not an easy thing to do well. Something like that would have to be done well. We would have to have really good professional management of it. We would have to manage the whole disease side of it really well. So it is an option worth thinking about, but it will cost.

CHAIR: Thanks, Mr Allen.

Senator CAMERON: Mr Allen, you are an employee of the New South Wales department?

Mr Allen: Yes. That is right.

Senator CAMERON: The Department of the Environment, Climate Change and Water have put in a submission to the committee. Are you in a position to answer questions on the department's submission?

Mr Allen: Not really, no. I am here as a private individual, I am afraid.

Senator CAMERON: That is a shame. Can I indicate to you that you cannot be disadvantaged by your evidence here. If your employer tried to take any action against you, that would be seen as very serious by this committee and the Senate. Okay?

Mr Allen: Yes.

Senator CAMERON: I do not want to put you in a difficult position unnecessarily, so I will concentrate on your submission.

Mr Allen: I realise I have put myself here.

Senator CAMERON: Your individual submission, in my view, leaves the department's submission for dead.

Mr Allen: Thank you. I agree.

Senator CAMERON: It is very good. The issues you raise are many and varied, including the Indigenous linkages. You are obviously well versed in this. Either in your employment with the department or as a private individual, has the Threatened Species Scientific Committee ever contacted you or contacted the New South Wales department?

Mr Allen: Yes. They contacted my department. My department advised them to contact me. They did contact me and I did do a submission to the Threatened Species Scientific Committee.

Senator CAMERON: So you would be aware of the scientific committee's report to government.

Mr Allen: Yes.

Senator CAMERON: I must say that I am getting more and more befuddled in relation to this scientific committee report, given the evidence that we are getting here. Some people would say I am befuddled all the time.

CHAIR: You said it, Senator!

Senator CAMERON: But particularly on this one, I must say. The coalition do that all the time! The scientific committee say that they cannot make a determination because of the lack of precise population trend data. It seems to me that you have done a lot of work in your area that would say lots of population trend data has been done and we nearly have nothing left. Would that be right?

Mr Allen: The difficulty with that is when you look at the criteria that the scientific committee were looking at, which is: has there been a substantial decline in the past three koala generations? If we look at the far South Coast population, three koala generations ago numbers were already very low and they have got a bit lower. I think that is the essence of the story. So we cannot actually say that there has been a substantial decline on the far South Coast in the past three koala generations because there were already hardly any left 20 years ago.

Then there is the case of the tablelands. In my submission I gave to the committee a population estimate. I stressed that it has to be, at the moment, a best guess. It is not based on hard, empirical, scientific data. It is based on my experience in the field, just teasing out whatever fragments of information we can get in what is a really tough thing to do—that is, to try to estimate a koala population over tens of thousands of hectares. That was the information that I provided to the committee. I made it clear that it is a best guess. So the committee is right to say that from our region no hard empirical evidence was presented about trends.

What I will say about the southern tablelands population and that of the Southern Highlands is that my best guess is that that population is stable, certainly in the southern tablelands, and perhaps recovering. But are they vulnerable? My oath they are. We still only have a few hundred animals. That population is facing a number of different threats and the situation could change quite rapidly.

Senator CAMERON: The department's submission is not a bad submission. I just think yours is better.

CHAIR: I hope that is not damning Mr Allen with faint praise, Senator Cameron.

Senator CAMERON: No, it is not. I think his submission is really good. The submission from the department says that the koala is listed as a vulnerable species under the Threatened Species Act in Hawks Nest, Tea Gardens and Pittwater. That is the New South Wales act.

Mr Allen: That is right.

Senator CAMERON: You may want to take this on notice, because I do not want to spend a lot of time on it. I would like to understand the difference between a vulnerable species according to the scientific committee, under the federal act, and a vulnerable species under the New South Wales act. Is there any difference in the definitions?

Mr Allen: I would have to take that on notice to find out the specific ecological definition of vulnerability. I do not know. What I can say is that if it was declared vulnerable federally I am reasonably confident that that would trigger legislative requirements and it would draw the Commonwealth government in to greater efforts to protect the koala than is currently the case.

Senator CAMERON: The New South Wales department's submission talks about these koala populations as being listed as endangered.

Mr Allen: Yes.

Senator CAMERON: What is the difference between endangered and vulnerable?

Mr Allen: Endangered means that they are close to extinction. Vulnerable means that they are vulnerable to extinction. That is the essence of the difference. I will say that there have been several attempts to nominate the population on the far South Coast as endangered with the New South Wales Scientific Committee, but they have been unsuccessful. Again, the issue has been hard, empirical data. There may be other views.

Senator CAMERON: I think it comes back to this issue that I have raised before. It seems to me that if you have a purely scientific approach to vulnerability or endangerment it is very difficult to actually protect a species.

Mr Allen: I agree absolutely.

Senator CAMERON: But say you have a scientific approach, which I support, coupled with field evidence from people who are out on the ground and doing the work. We really need to get a combination of both, don't we?

Mr Allen: Yes. I agree.

Senator CAMERON: You are out doing the field evidence. I assume your position would be that we should do something nationally for koala protection.

Mr Allen: Absolutely, yes.

Senator CAMERON: So all the people who are out in the field actually living it day by day have got this very strong view, compared to the scientists, who take submissions and then say, 'We've just got to make a judgment.' But that would be a scientific judgment and not an expert judgment on what is happening on the ground, wouldn't it? Are you a scientist, Mr Allen?

Mr Allen: I am not a qualified scientist, no.

Senator CAMERON: I thought you were going to get into a defence of scientists there for a minute.

Mr Allen: I can speak as a layperson here. My sense of that Threatened Species Scientific Committee process is that they did want to hear from scientists on the ground. I attended a workshop where a number of different koala scientists, including me, presented information about what we thought was happening with the populations nationally. I felt they really listened to the information that was provided to them. But they are constrained by the act and the definitions in the act. The thing that they have to hang their hat on is demonstrating a decline over three koala generations.

Senator CAMERON: So it is the weakness in the federal act which is the problem.

Mr Allen: That is my view, yes. My view is that probably most of the people on that scientific committee would agree with people on the ground that the koala is in trouble and we really need to do something about it.

Senator CAMERON: So your view is that it is not good faith or scientific analysis from the committee that is the problem; it is the act itself.

Mr Allen: It is the definition in the act, yes.

Senator CAMERON: I will just go back to your submission. Did you give the scientific committee copies of all the surveys that you have done?

Mr Allen: I gave them a summary of the surveys that I have done.

Senator CAMERON: There have been 300 volunteers and 800 days of fieldwork since 2007.

Mr Allen: That was at the point of the submission. This is an ongoing program.

Senator CAMERON: This is the second hearing on this. It seems to me that there are people all over the country who want to save the koala.

CHAIR: Hear, hear!

Senator CAMERON: There is no doubt about that.

Mr Allen: Absolutely. That is one of the things I feel so strongly about: we need to have the sense that the governments are behind us.

CHAIR: Yes.

Mr Allen: We need that support to integrate what we are doing better.

Senator CAMERON: Parliament should be behind you, surely?

CHAIR: Indeed.

Senator CAMERON: We had a discussion earlier with the previous witness about logging activities. I was asking what constraints there are on business in terms of them adding to the stress on koalas and the destruction of the koala population. Are you saying that in the logging area there are not enough constraints and not enough checks and balances to help save the koalas?

Mr Allen: Absolutely. As the current interagency forestry agreement stands, there is not enough protection for koalas, and that is accepted at a government level. We are already in a situation within that area in New South Wales where some logging activities have occurred. There was community outrage about it. I was involved a little bit in some survey work that assisted in the decision-making processes there. The decision was taken by forestry to withdraw and to try to work through some options that would enable a better outcome for koalas. That, as yet, has not been resolved. It is a very serious issue and it is a very serious issue economically.

Senator CAMERON: On the genetics, there are 50-odd koalas left in the Eden area.

Mr Allen: Yes.

Senator CAMERON: What is the genetic time bomb that is ticking away there?

Mr Allen: This was a surprise: the genetics are good. There is still a relatively high genetic diversity within that population, which gives me some cause for optimism. The other interesting thing about the genetics is that

the closest population genetically is the population in the Strzeleckis. We have not had the results back on the genetics of the southern tablelands populations. But there is a very clear indication that federal oversight would enable us in New South Wales to start working with those people managing the Strzelecki population. There is very little contact at the moment between us because it is a state-by-state thing, yet our koalas are closely related.

Can I add one thing about dog control. I was interested to hear the previous evidence. Within national parks in south-east New South Wales there is quite a systematic dog control program happening. It is an interagency thing, so state forests, national parks and landholders are doing it. So there is a dog control program, particularly around that koala identified area and more widely.

Senator CAMERON: The department you work for are doing lots of good work, aren't they? I do not want to be too critical of them. They are doing some good work in protecting koalas.

Mr Allen: The support they have given me to do the work that I have been able to do is an indication of that. I completely agree.

Senator CAMERON: Do you expect that support to continue?

Mr Allen: We are in the process of a budget review and the outcome of that is not clear.

Senator CAMERON: Thanks very much.

Mr Allen: It is a pleasure.

CHAIR: Thank you very much, Mr Allen.

Proceedings suspended from 11:03 to 11:15

KAKAS, Ms Caryn, Executive Director, Residential Development Council, Property Council of Australia

ENGERMAN, Mr Paul, State Operations Manager, Queensland Property Council, Peet Ltd

CHAIR: Welcome. We have a submission from the Property Council. Do you need to fix anything in it?

Ms Kakas: No corrections.

CHAIR: Then how about a quick opening statement?

Ms Kakas: Thank you for allowing us to address the committee hearing into this inquiry. We are here today representing the Property Council of Australia, which comprises the leading developers, financiers, owners and managers of investment property in Australia. At the outset I would like to make it clear that the Property Council supports the government's aim to protect an icon of Australia's fauna, the koala. Long gone are the days of the white shoe brigade, a term which was used quite readily at the last hearing. Today's developer undertakes substantial work to ensure that they are delivering on a triple bottom line approach. That means economic, environmental and social outcomes are a minimum for achievement in our developments. Sustainability of the environment is indeed taken very seriously and begins well before one patch of dirt is turned on any one of our projects. Developers deliver homes and communities to Australians across the country and they do work with governments at all levels to try to deliver projects that have this balance.

We are here today for three reasons. One is to support the need for evidence based conservation action. To us that means supporting the need for federal funding that provides national high-level quality data and the need for mapping of koala populations to ensure that we have a national targeted protection program in place.

I do not believe that we should have to wait until a species is listed as critical. I have read many of the submissions and the hearing transcripts of the people who are clearly committed to securing koala populations, and I sense the frustration that the only way to get funding and support for our understanding of the koala populations is to achieve the much unwanted status of being put on the environmental protection list. At this stage we do not believe that koalas should be listed. We do agree with the Hawke review in that we think that there should be one national list, not a fragmented jurisdictional list, if we are to get a national snapshot and true understanding of the populations of the species that we are trying to protect.

Finally, I have asked one of our developers to join me to answer questions with regard to the Queensland experience. The Koala Response Strategy, which has been in action for less than one year, needs to be allowed to do its job. The work of the state and local governments, based on principles of subsidiarity, has been done to try to put in the best way to manage the environments of the communities that they know, live and work within. Commonwealth overriding of planning decisions in this area does not often bring with it a better outcome, including for the environment. In our view, sustainability is the act of finding the balance between the economic, the social and the environmental factors. We believe that a balance needs to be found here that integrates the protection of ecological processes and natural systems with economic development and the social wellbeing of both people and communities. Thank you.

CHAIR: Mr Engerman, do you wish to add anything?

Mr Engerman: I am here predominantly to answer your questions, but I guess I will reinforce the Queensland experience. We have new koala conservation policies in place and a planning regime that certainly supports that. I can give an example of one of our properties. We have 11 in Queensland. There is one that is fairly topical, and that is in the future city of Flagstone. If we had taken the mapping that was done around koala conservation on that property a year ago that entire property would have been undevelopable. This is a property that will deliver around 2,000 homes.

CHAIR: That entire property would be what?

Mr Engerman: Under the mapping that was done at that time and the draft koala policy at the time, that entire property would have been undevelopable.

CHAIR: You are saying it would not have been developed.

Mr Engerman: That is correct.

CHAIR: I misheard. Thank you.

Mr Engerman: I will describe the property. It is a couple of thousand homes, a school and a shopping centre in an area that is screaming out for affordable product. What has happened since then is that we have ground truthed that property and found that the mapping was demonstrably wrong. The mapping that was used was

prepared by a consultant who, even in their report, had a footnote to say that it should not be used for any policy implementation. I do not think we need to get into the detail of that. It is more of a general statement that science needs to be applied if we are to have this debate properly, because high-level mapping can be wrong. That is an example of what can happen.

We now have a new planning policy. There will be many who may be uncomfortable with it, but it is a very stringent policy that goes, I think, as far as you can to protect koalas. Indeed, it is all about increasing the koala population by 2020. So that is the current regime in Queensland. What that regime allows is that we can develop that project, but we will provide offsets to provide better koala habitat in more appropriate areas—because it had an incredibly low koala carrying capacity. Now what will happen is that areas directly to the west of it that are large and connected and have much better koala value will be improved through this policy. It is reinforcing the idea that to introduce another layer through the EPBC Act in South-East Queensland may not be necessary. I would question the effect of it because we have a very stringent system in place now, which we will live with. If we take the Flagstone example again, that is one of the three new cities that are being delivered in South-East Queensland to address affordability through the ULDA. To bring this in would fundamentally undermine that process, which is about getting product to the market quickly but responsibly and addressing affordability.

CHAIR: Thanks. Ms Kakas, in your opening statement you said that the Property Council believes that koalas should not be listed as a declared species under the environment protection act. Unless I have misread your written submission, it stops short of saying that. I want to ensure that I understand what the council is saying. I read in your submission that you think there should be a national approach. Then you go on to say:

Should the koala be listed, the following must be considered.

Unless I have missed it, I do not see—

Ms Kakas: Within the context of the submission we are saying that we will stand by whatever decision is made and that if that decision is being made these are the things we will base it on. As you would know, there has been a long-held decision under the environmental protection act—which came out in the review by Hawke last year—which is how it is that we get species listed and the amount of scientific rigour that takes place in order to list them. The larger problem we have had has been that fragmentation. We have been looking at small, isolated species in different areas and we have not actually had an understanding of the population as a whole. We would not want to see any species listed, including the koala, unless what we consider to be those basic hurdles have been met.

CHAIR: Including a national assessment and a national approach to follow?

Ms Kakas: Correct.

CHAIR: I will turn to your comments, Mr Engerman, about the Queensland system. Presumably it is not the same as what would flow were the koala to be listed under the EPBC Act. Would the Property Council support, for argument's sake, the mirroring across every state? Or, to put it another way, would it support implementing nationally the Queensland provisions?

Ms Kakas: The original Queensland provisions that were made we absolutely would not have been in support of. The provisions we have now are too preliminary to say. I think we are closer to getting the right balance of support under this piece of legislation. What we would have to see is an assessment of how that is working. The problem is that it has been in for less than 12 months.

CHAIR: Mr Engerman, you talked about providing offsets of habitats under the Queensland system, if I have it right, which in your view were better for koalas than the habitat that you are utilising. Mr Allen addressed this in part in his evidence: what would you say to those who say that you have to be very careful in attempting to move populations of koalas? After all, if you are proposing an offset system, aren't you essentially saying, 'We will move this group of koalas from this part of the land that we are about to use to another area that we consider better'? What do you say to those who express significant caution about moving koala populations?

Mr Engerman: I do not have the scientific background to answer that properly. I know there are two views. I know there was a recent example in Narangba in Queensland where they moved a population of koalas. I understand that is going well, but I would suggest it is probably too early to tell. I think it is important that, if we are talking about areas that do have significant or substantial populations of koalas, the new policy will not allow that anyway. So I think this is an areas of a lower carrying capacity but there is provision to still improve other areas rather than just cruising through.

CHAIR: If I heard you correctly, you just mentioned the new policy. Are you talking about the new system that has been in place in Queensland for less than 12 months?

Mr Engerman: Yes, that is right.

Senator CAMERON: So the white shoe brigade is endangered like the koala, is it?

CHAIR: They are already extinct, I think, Senator Cameron.

Senator CAMERON: I am not sure that I would agree that the white shoe brigade is extinct. There are probably more of them than there are koalas in Eden, I think. But it is an interesting point of view. I just got on your website and I see that, going back to 2009, the council was complaining about the Queensland laws, saying they were difficult to bear.

Ms Kakas: Correct, and those are the laws that have since been changed. The original proposal that was put forward was quite draconian, did not have scientific rigour behind it and had been done without much consultation. That has substantially changed. What we have had in the last 12 months is something that has involved community consultation, industry consultation and work with the government and the scientific community to try to put together a program that actually delivers a better outcome.

Mr Engerman: And importantly, too, it allows for ground truthing so the science can come into play rather than generic maps that may not be accurate.

Senator CAMERON: So would it be too harsh to say that the \$300 billion industry muscled up on the government and the government conceded?

Ms Kakas: I think it would be fair to say that the government delivered in a vacuum.

Senator CAMERON: what you mean?

Ms Kakas: What I mean by that is that there was a policy that had not actually done its ground truthing—it had not done its work. It was a populist policy that had not actually engaged fully. I think the government quickly realised that that was the case.

Senator CAMERON: I keep hearing politicians in Australia saying that governments need to listen to the people otherwise there were people's revolutions and all of this sort of stuff. Should government not consider the views of the population?

Ms Kakas: I think they should consider the views of all of the population.

Senator CAMERON: Including the \$300 billion industry?

Ms Kakas: Absolutely.

Mr Engerman: Yes, and that industry's customers. That policy, if it went through as it was, would have fundamentally undermined the entire regional plan of south-east Queensland and exacerbated an affordability issue that is already there.

Senator CAMERON: It seems to me that the bulk of the evidence that we are getting is that the pure scientific approach to protecting koalas will mean eventually the koalas will go extinct. That seems to me to be some of the evidence that has been put forward. You are saying, 'Just go for the scientific approach—it all has to be based on science'. Tell me why the scientific approach, without other aspects, is the way to go.

Ms Kakas: I actually think that is not what we are saying, Senator, with all due respect. I think we are saying two things. I think we are saying that it is a sad state of affairs that you have to get to a case in which an animal is virtually extinct before something is done. I think that most of the evidence that I have read has the scientific community crying out for national funding in order to actually understand those populations, understand the issues that are impacting on their health and wellbeing and how it is that we actually continue to protect those areas. From our point of view, we would actually like to see some funding go in. This is an area that, if it is important to the people, the federal government should putting money and research in to ensure that it happens. There is a whole range of issue areas around the impacts, and urban development is but one of quite a long list of factors impacting on koalas. So, from my point of view, I actually think what we are saying is that, yes, we need to take the best scientific minds and understand what is going on with the koala population and we should not have to wait until we are at the end of that list. I just do not think that, in that decision, we should put something on a list in order to get the proper attention for it. We should move before that.

Senator CAMERON: As a \$300 billion industry, don't you believe that you have some responsibility in this area as well?

Ms Kakas: I think we take our responsibility very seriously. Where we put our money is into the communities in which we are building. We work with local communities to deal with local environmental issues. I would much rather see that money given into the hands of scientific researchers who have the capacity to look at a national area. I fail to see the ability of us undertaking that work. If we did undertake network, Senator, I would argue that we would then be told that, regardless of the outcome, it was biased because our money had been put into it.

Senator CAMERON: Don't be so negative, Ms Kakas.

CHAIR: Or, indeed, realistic, Senator Cameron.

Senator CAMERON: How much money has the \$300 billion development industry put into koala research?

Ms Kakas: We have done koala reservation work. I would not be able to tally how many consultants' reports, how many hours of work that had been done by the industry in this area, how many hearings have been attended, how many hours—

Senator CAMERON: That is not what I am asking. That is a different thing. That is you.

Ms Kakas: That actually is the area in which we are involved.

Senator CAMERON: So you have not actually engaged with any of the submitters. You said you have read the submissions. You have not engaged with any of them to put any money into koala research as distinct from protecting your property rights and your rights to develop and be involved in legal proceedings and other proceedings based on getting the development up and running.

Ms Kakas: We have put about as much money into it as the national government appears to be currently focused on putting into koalas.

Senator CAMERON: How much is that?

Ms Kakas: It appears to be zero at this stage. The fact is that the industry's responsibility is to take care of the land they have. It is to deliver affordable housing outcomes, employment and jobs. Our job is not to fund every scientific research program. How do we choose between the koala, the legless lizard, the white-tailed possum and any of the range of flora and fauna that we deal with? It is not our decision to determine which of those we should be supporting. The fact is that we address each of them in the areas that are on our developments.

Senator CAMERON: The point I am making is that the Property Council has a reactive approach. You react to protecting your interest and your rights to develop. You interact with the local legislation, the state legislation and the federal legislation. And that is all about keeping your business up and running. I have no argument about that. What I am trying to say to you is that, in terms of why you should be dealing with the koala, the evidence that seems to be coming here is that the koala is iconic, it is under lots of pressure, it could even be down the track extinct and your \$300 billion industry is having an impact on those koalas. I am simply saying that, if you are genuine about the triple bottom line that you talk about, one of the triple bottom line issues is the environment and protection of koalas. How much money have you put in? You have said, 'Nothing'.

Ms Kakas: I believe that we do the environment work that we do on each of those programs and that would mean that in any particular development we deliver we can be looking at dozens of different flora and fauna that we work out outcomes to protect. That can be millions of dollars in offsets in any particular project. That actually delivers the outcome. In terms of being reactive, we are both reactive and proactive. We are here today asking you to be proactive. We believe that there actually needs to be national research money put into doing some serious, high-level, quality research into looking at the health of koalas.

Senator CAMERON: And a \$300 billion industry, other than protecting your property rights, would have no input financially to that research? Is that what you saying?

Ms Kakas: That \$300 billion property industry is providing affordable housing, jobs and construction across the country and it is providing sustainable outcomes, both social and environmental, on each of our sites. We choose to utilise our money on each of those individual sites to deliver outcomes to communities because we believe that is where the money is best spent.

Senator CAMERON: That seems to me to be a well practised and rehearsed response, to be honest.

Ms Kakas: As this is my first hearing on koalas, Senator—

CHAIR: Senator Cameron, how about letting the witnesses give you answers to your attempting-to-lead questions.

Mr Engerman: Can I deliver an unpractised analogy? I do understand what Caryn is saying. On each site we will go to extraordinary trouble to investigate the site from an environmental perspective in terms of—

Senator CAMERON: Is that because—

CHAIR: Senator Cameron, you often criticise others for interrupting a witness attempting to give an answer.

Senator CAMERON: You are right, Chair.

Mr Engerman: Just on us putting money into research on koalas, to go back to the triple bottom line, if we go to the economics, we also deliver land to retail centres. We are not looking to put money into understanding the effect of the internet on retail. We are not looking into the school syllabus for the schools we develop. A line has to be drawn in terms of where our responsibility goes. We work within the rules that we have and we worked

diligently within those. We go beyond, to answer your question, or where I know you are going, what we are prescribed to do through planning. We do work beyond that. If you want to cast it as self-interest, we also understand that our customers and shareholders expect of us environmental, sustainable outcomes. We are charged beyond legislation and beyond our corporate citizenship. The development industry nowadays has moved on from that white shoe thing. We are actually leading sustainability in many ways. But you have to draw a line. We cannot be putting money into researching koala health, just as we cannot be looking into syllabuses for schools or the effect of internet on our retail customers.

Senator CAMERON: You raise the internet. The \$300 billion development industry in Australia will not destroy the internet. But, certainly, the \$300 billion development industry in Australia can have a major effect on and kill koalas.

CHAIR: Is that a question or a statement, Senator?

Senator CAMERON: It is a question. Isn't there a difference?

Mr Engerman: Again, I don't know where you draw the line. Do we look into speed environments around schools ourselves because kids might be getting hit by cars? I do not know where you draw the line. We live within a set of rules. Everyone plays within a set of rules. We are just saying that the rules need to be practical. We have rules in south-east Queensland that we think are stringent and that do everything that you want. They are about increasing, not just maintaining, the koala population by 2020. We are happy to work within those rules; we are just suggesting that another layer will just add another layer of cost and more burden on affordability.

Senator CAMERON: As to this scientific research that you are saying should be done, have you given any thought to how long that would take and what the cost of that research would be? If the research says that there should be no development where koala habitats are, would you abide by that?

CHAIR: There are a lot of hypotheticals in that question, Senator.

Ms Kakas: There are an enormous amount of hypotheticals. To cut to the chase, we recognise that, whatever is identified as needing to be done, that is what the industry will do. The industry is not in the habit of going after populations of koalas. If it is identified that they need to be preserved and there are areas where they need to preserve them, we will make sure that we do that. We will work around those parameters, as we have done consistently.

Senator BOB BROWN: I am sorry I missed the earlier part of your presentation. What is a koala worth?

Ms Kakas: Senator Brown, I am not in the habit of pulling a price or dollar signs around human life, flora, fauna or any other sort of life and I am not inclined to do so here today.

Senator BOB BROWN: But you are talking about getting compensation if a habitat for koala is protected. You can measure that. Why can't you measure what the value of a koala is?

Ms Kakas: I am sorry—we are talking about compensation? We do talk about the fact that for land use, much is standard—for example, if a property is heritage listed and therefore is unable to be used, often properties would receive some sort of compensation for the fact that they have limited use. It is the same scenario and that would be done very much on a localised basis. So that would depend on what it was currently listed as and where it would change to. So, unfortunately, it is a very arbitrary question.

Senator BOB BROWN: No, it is not. Compensation is a two-way street. You are saying that compensation should go to developers who are inhibited for the reason of protecting koala habitat. I am wondering what compensation should go to the public good where koala habitat is taken by developers.

Ms Kakas: That is why we have BioBanking, which is a scheme that was put up with New South Wales. It is an idea involving land offsets, in which we provide cash or land or often both in order to provide back habitats and communities. That is something that is being looked at in Queensland. It is commonly done as part of a process of offsets to ensure that, where we have denigrated land that may have some sort of, say, native vegetation that is of poor quality, we actually offset that with land in an area that has a better native grass component.

Senator BOB BROWN: Can you tell the committee of any hectare or place in Australia that you would nominate that is not occupied by koalas and that could be taken up by koalas as an offset?

Ms Kakas: Normally the state determines where that offset is best placed. It is done by an environmental committee that consists of scientists and others who are much better placed than I am to determine where those environments are—they identify either where there are populations that are best protected and they can actually get a better outcome there or where there are areas that could be brought up to being a better space. That is not something that has ever been determined by the development industry.

Senator BOB BROWN: Do you not accept that there is no koala habitat that is not occupied that is really available for a viable koala population as an offset?

CHAIR: I think the witness has just answered that question by saying she is not qualified to comment.

Senator BOB BROWN: But she raised the issue of offsets, Chair. It is her topic. I am just asking and now probing her ability to answer about offsets, because I do not believe offsets exist when it comes to koalas.

Mr Engerman: Can I suggest that it is actually beyond that land issue as well. The offset policy allows for a number of things. Some of it can be planting in other areas. If we talk about compensation—

Senator BOB BROWN: Just on that, Mr Engerman, can you tell us one area that has been successfully planted and become koala habitat anywhere in Australia?

Mr Engerman: The policy is new, but in terms of the Vegetation Management Act there are areas that have done that. I cannot give you specific examples.

Senator BOB BROWN: Could you take that question on notice and come back to the committee?

Mr Engerman: Absolutely.

Ms Kakas: We can certainly take that on notice.

Mr Engerman: The koala offset policy is new in Queensland and to my knowledge it has not been implemented as yet in terms of that actually going to ground.

Senator BOB BROWN: You said that the south-east Queensland rules are aimed at increasing the koala population by 2020. Do you know of anywhere where they have been successful so far in increasing the koala population?

CHAIR: Senator Brown, just before we get an answer to that question, while you were out of the room the witnesses explained that this system in Queensland has only been in place for about 12 months. But proceed with your question.

Ms Kakas: I think the answer is that it is too early to say. The policy has been in less than 12 months.

Senator BOB BROWN: You do not think it is a wing and a prayer that something that has not worked ever before might work into the future?

Mr Engerman: I guess where I was going before was that it is not about a land area thing. Part of it can be improving areas in terms of the carrying capacity for koalas.

Senator BOB BROWN: Would you be happy with a development taking up known koala habitat?

Ms Kakas: I am sorry?

Senator BOB BROWN: Would you be happy with an area of known koala habitat to be taken over by a development that removed it as habitat?

Ms Kakas: I would be happy with a state government and a local council looking at that area and determining whether or not it is a habitat, whether or not it is a habitat that needs to be protected and whether or not it is a habitat that can be worked around and then standing by the decision that they make in order to deliver—

Senator BOB BROWN: When you say a habitat that needs to be protected as against one that needs to be worked around, do you mean by 'worked around' that it can be destroyed?

Ms Kakas: No, I do not mean that; I mean that they can actually operate in conjunction with one another.

Senator BOB BROWN: Let me put this question, then, on existing practice. Has there been any koala habitat destroyed by development in Queensland or anywhere else?

Ms Kakas: I would have to take that question on notice.

Senator BOB BROWN: Please do.

CHAIR: Can I interrupt, Senator Brown, on a point of proceedings. We are very pleased to have lots of passionate and interested parties in the gallery, but can I ask you to accord the same respect to all witnesses. Everybody comes here with a point of view and we live in a lucky country where we are entitled to express that view. So please accord the same respect to all witnesses. I know you will.

Senator BOB BROWN: I can say to the gallery too that we are all human and we can react as we might. But could you take that question on notice. If you do find that there has been habitat impacted by development—let us limit this—

Ms Kakas: I think 'impacting' is substantially larger than what you asked us previously, which was about koala habitat specifically being destroyed.

Senator BOB BROWN: Let us say 'destroyed'. The answer will be none or it will be yes. If it is yes, could you give the committee details of where that has happened.

Ms Kakas: I am happy to ask the question of our membership and see if we can come back with an answer that is something that within that range.

Senator BOB BROWN: I am interested in the cost question again with koalas, which are iconic. We have had evidence already today about them having a commercial value to Australia that is not assessable. You have indicated in your submission that there should be compensation where EPBC decisions end up prohibiting or inhibiting developments. I will come back again to the question: do you think that, if developments were to impact on koala habitat and reduce the viability of koalas into the future, the developer should pay compensation to the nation for that loss of habitat?

Ms Kakas: Senator, we currently do pay compensation for habitat. That is done under systems like I talked about—BioBanking—and it is done and monitored under the environmental act. It is determined on a case-by-case basis under the EPBC Act and by the government.

Senator BOB BROWN: So you are now telling us that there is a loss of habitat?

Ms Kakas: No, what I am telling you is that we pay money in offsets—cash, land and a range of other programs—in order to ensure that the environmental impact that our developments have are offset into ensuring other parts of the environment are taken care of.

Senator BOB BROWN: Tell me how that works.

CHAIR: This is your final question, Senator.

Senator BOB BROWN: Yes, Chair, I am happy with that because we have some information coming on notice. We have a finite Australia. We know from the extraordinary evidence before the committee that koala habitat is being lost and fractionated by developments. The numbers are down, on the evidence, to somewhere below 100,000. Are you telling the committee that future developments are not going to further reduce that koala habitat and therefore increase the likelihood of its vulnerability to extinction?

Ms Kakas: Senator, I am unable to make a response to a hypothetical question. From what we identified earlier and the fact that there is no national mapping to determine where those koala habitats are so that we can ensure that we can protect them. Not knowing where those habitats are, I could not possibly answer that.

Senator BOB BROWN: Have you seen the Koala Foundation's mapping?

Ms Kakas: I did see that they launched that, but I have not seen their mapping.

Senator BOB BROWN: Have you asked for it?

Ms Kakas: I have not, but our Queensland division has taken that material on board.

Senator BOB BROWN: You say there is no mapping, but it exists.

Ms Kakas: No, what I say is that there is no national, consistent mapping. What we have is a series of maps that have been done across the country—a particular shire or a particular local council will look at doing mapping and it will use one set of scientific decision making. We will then have a state that will then undertake to have that done in a region so that we have a better understanding in the development. What we do not have is a nationally consistent, high-level set of data around both mapping and certainty about where those habitats are so that we can actually protect them.

Senator BOB BROWN: So the precaution principle is in favour of the development, not in favour of the koala?

Ms Kakas: No, the precaution principle is in favour of consultation between the community and the development facilitated by government to get the best outcome for all involved.

Senator BOB BROWN: I look forward to your answers.

CHAIR: As do we all.

Mr Engerman: Can I just add that we are working within a regime in Queensland that is about increasing koala population by 2020. So we are already working in a regime—

Senator BOB BROWN: I did ask you about that.

Mr Engerman: That is the outcome. In terms of whether we think it will decrease, no: we are working towards increasing it.

CHAIR: Thank you.

McKELVEY, Mr Rod, Private capacity**HIBBERD, Mr John, Executive Director, Conservation Council ACT Region Inc**

[11:53]

CHAIR: Welcome. We have submissions from each of you. Do either of you need to correct anything in your submissions?

Mr McKelvey: I do not know whether it is important or whether you already know, but DECCW, which you would have been hearing about somewhat over the last period of time, no longer exists in New South Wales. It is now referred to as the Office of Environment and Heritage NSW. It actually fits in under the Department of Premier and Cabinet in the short term and is now OEH New South Wales.

CHAIR: Thank you for that clarification. We will do our best to come to terms with it. I guess if we don't, for the purposes of today we all understand.

Mr McKelvey: It still means, obviously, that all of the plans and policies that were—

CHAIR: Are what we are talking about, yes.

Mr McKelvey: Yes, they are administered.

CHAIR: Would you each care to make a very quick opening statement?

Mr Hibberd: Yes, if I may. First, apologies for my slightly piratical appearance today. I am undergoing chemotherapy at the moment and I did not want to frighten the committee.

CHAIR: It adds a bit of colour.

Mr Hibberd: It might help to establish my credentials at the beginning. I am a qualified ecologist and environmental scientist with over 40 years experience in conservation management, including 10 years as a senior scientific officer with the National Parks and Wildlife Service and over 15 years across 11 countries in south-east Asia and the Pacific providing conservation advice to governments, non-government organisations and community organisations, often funded by the Australian government through AusAID. I am also the chair of the Australian Environment Committee and serve on the executive of the Australian committee of the International Union for Conservation of Nature. But of particular relevance to this committee's deliberations is that I am a member of the board of management for Biamanga National Park, which is a national park in a contiguous forest area to Mumbulla State Forest, about which you have already heard from Mr Allen and which forms the focus of our submission. I have personally participated in a number of koala field surveys.

I would like to make a quick commentary on two previous determinations for listing, both of which rejected listing of the koala. The first was the New South Wales scientific committee in December 2007. I would just like to quote from that. Despite not listing the koala, it said, 'the rejection does not imply that the long-term viability of this vulnerable species is not at high risk of extinction in the medium-term future'. They made that determination not to list on the basis that they believed it was not a disjunct population. I think you will see from the data provided by Mr Allen that the far South Coast population is now clearly a disjunct population.

The second determination was made by the National Threatened Species Scientific Committee in December 2010. Like Senator Cameron, I am also slightly befuddled by some of their reasoning. They state, 'if there cannot be a genuine national effort to rapidly implement a national koala strategy through an effective action plan, our advice warrants listing of the koala'. There are some key areas of our submission. I am not going to go through it, obviously, in any detail, but I think it is really important for the committee to realise that koalas utilise a very wide range of species. I really do refer you to the excellent research work done by Eleanor Stalenberg, which is highlighted in our submission. It is clear that there is a complex interaction between toxins and nutrients. She makes the point very clearly that to a koala one tree might taste like chocolate and another tree might taste like cardboard. So perhaps in south-east New South Wales there is no such thing as an easily identifiable koala food chain. This has enormous implications for the mapping of habitat of koala populations. We urge that there should be erring on the side of caution in mapping koala habitat. It is no good saying, as some do, 'We will not log the trees that the koalas are actually living in'.

As I mentioned before, I serve on the board of management for Biamanga National Park, which is an Aboriginal hand-back national park. It is my privilege to work with a wonderful group of Aboriginal traditional owners. They are absolutely dismayed at the likely loss of such a significant cultural icon. They propose that all

the forests between the two sacred mountains of Gulaga and Mumbulla should be permanently protected and managed by their traditional owners to ensure that these significant cultural items are protected for all time.

I would also like to point you to the point in our submission about how the National Parks and Wildlife Service and the traditional owners are working together to design specific fire management strategies to protect koalas. The koala population on the far south coast of New South Wales is the last vestige of the once great koala populations that ran throughout the Bega Valley. But, unfortunately, the New South Wales government cannot be relied upon to save them. Intensive logging in Mumbulla State Forest is absolutely imminent any day. Hunting in Mumbulla State Forest with guns and dogs is imminent any day. If these do not extinguish the koala populations—the last koala populations on the far south coast—intensive farm management practices probably will.

The much-touted Far South Coast Koala Management Framework, which is referred to in the Forests New South Wales submission, has absolutely sunk without trace since 2008 into the mire of interagency conflict. I think Mr Allen referred to this. The local community that lives around these forests has been totally frozen out of any consultation on koala management in this area. Even the guiding principle no 2 of the National Conservation Management Strategy is to apply the precautionary principle to the protection of koalas. The community is calling on the federal government to immediately intervene and act to ensure the survival of this population. In conclusion, I would urge you to recommend immediate implementation coupled with an appropriate level of funding for an effective national koala action plan, including private partnerships; secondly, to ensure that the states regulate and enforce conditions on all public and private forest land through such mechanisms as the IFOA, the PNF code and local environmental plans to maximise koala population viability, including the removal of koala habitat areas from the regional forest agreement harvest areas; thirdly, to implement national, independent, transparent—and by that I mean publicly accountable—and scientifically based monitoring and auditing procedures for koala populations and land management practices because we do not have a monitoring program for koala populations; and, finally, in order to preserve the precarious viability of the far south coast koala population and to provide optimal opportunities for their expansion, to list that disjunct population as critically endangered. I believe that every koala matters. With such a limited food resource and the current levels of threat, including climate change, our land management practices need to give them room to move.

Mr McKelvey: I have no scientific credentials other than the fact that I have long held the belief that we should respect the world within which we live. I have become more and more frustrated by the fact that there is a huge number of volumes of documents that promote protection of animals like koalas and a lot of those documents include planning documents. In Coffs Harbour we undertook the bold step of creating a comprehensive plan of management for our koalas. We are a known and rapidly growing coastal city. Mostly we have kept the normal perpetrators of the development industry at bay since the plan was brought into play in 2000, but the worst perpetrator is a government department—that being the government department that is responsible for private and native forestry, which basically refuses to acknowledge the Coffs Harbour comprehensive koala plan, even though we undertook the plan following the release of the SEPP 44, which is a state environmental planning policy, in 1995. That clearly gave guidelines, under which was the procedures for planning, comprehensive koala plans of management under the state environmental planning policy 1995 SEPP 44 koala habitat protection.

The aim of our koala plan was to identify the habitat and record and map that as part of our plan. Our plan was approved by the then department of planning in about early 2000 and this then allowed the local government to put it into its local environment plan. So it became a legal document. Things went along pretty well for six or seven years until the state government brought out a private native forestry code of practice in 2007. Although the code of practice seems to be sympathetic to the protection of koalas—it says all the right words—after observing a couple of years of the plan in action, Coffs Harbour City Council was forced to go to the DG of DECCW at the time and point out the fact that there had been logging agreement signed off in core koala habitat.

For several years, basically, until late last year the department virtually ignored the local government and they did everything but address the issue. Our koala plan is currently being reviewed. This is part of the normal system. As part of that review it became obvious that the destruction of the core koala habitat was quite a bit worse than what we first envisaged. It appeared that about 2,000 hectares of only 19,000 hectares of core koala habitat had been licensed for logging. When questioned about this, the Director of Landscapes and Ecosystem Management, Tom Grosskopf—it is a bit of a contradiction in terms, actually, when you think of what he is signing off—actually commented in the local newspaper on 29 December 2010 that the Coffs Harbour Koala Plan of Management did not fall under the New South Wales environment planning policy but, rather, the council had its own detailed plan and had written themselves out of the State plan. This is an absurd statement given that our plan was formed with state direction and in fact other personnel from the national parks side of DECCW were the

prime authors of the koala plan. So it was about this time that council started talking legal action. They have engaged a QC, who has actually come back now with a finding that quite categorically states that the forest populations are prohibited from logging without exception in the core koala habitat. He did that after interpreting the PNF code of practice and how it relates to the original SEPP 44.

Senator BOB BROWN: What is PNF?

Mr McKelvey: The private native forestry code.

CHAIR: Mr McKelvey, have you almost finished your opening statement? We do wish to ask questions.

Mr McKelvey: That is a pretty good start. I am happy to go to questions now.

Senator BOB BROWN: I am an old product of Jetty High School. The committee has just heard that 2,000 hectares of core koala habitat totalling 19,000 hectares is earmarked for logging. Did I hear that correctly?

Mr McKelvey: That is right. In our LEP and as part of the koala plan we have 19,000 hectares of core koala habitat which is made up of primary, secondary and tertiary—there are three levels. Within that, the state government department has approved 2,000 hectares of logging.

Senator BOB BROWN: Where is that?

Mr McKelvey: In the Bruxner Park area and out in the Orara Valley area.

Senator BOB BROWN: Is this core habitat contiguous or is it in separated areas?

Mr McKelvey: Largely it is contiguous, yes. It is starting to form a bit of a problem, because we are starting to go through a corridors planning process at the moment and we are starting to find considerable holes in those corridors.

Senator BOB BROWN: Do you know how many koalas are there?

Mr McKelvey: No, I cannot answer that. I know that they are under stress in Coffs Harbour. Obviously dogs and cars are not too good to them. The Roads and Traffic Authority when they are building the Pacific Highway are not necessarily too kind to them either. When they recently built the Bonville bypass, which is just south of town—and that whole section of the highway was delayed for about 10 years because it goes through the Bongil Bongil National Park, which contains our highest population of koalas—they went through all of the rhetoric of saying they were going to do the right thing, but unfortunately they were pretty slow and once they started destroying vegetation they were pretty slow in putting koala-proof fencing up. There would be files in the bottom of some drawer somewhere, but it is not public, on how many koalas got killed in the early days. But it could be as many as 15.

Senator BOB BROWN: Got killed by what?

Mr McKelvey: They were koalas that had been tracked in that area prior to the start of the construction of the highway that do not seem to be there now. There were several bodies reported on the highway during the construction phase.

Senator BOB BROWN: When was that?

Mr McKelvey: That is only within the last three years.

Senator BOB BROWN: Really?

Mr McKelvey: Yes.

Senator BOB BROWN: What you are putting to the committee here is that the Coffs Harbour City Council has a comprehensive koala protection plan but it has been itself overridden by the forestry authority, which wants to log within the key components of that protection area?

Mr McKelvey: The interesting thing is that private native forestry is administered by DECCW. Basically within two departments of DECCW, one department promoting the protection, longevity and sustainability of koalas and another department signing off logging agreements in the very habitat that will support their sustainability.

Senator BOB BROWN: If it has been decided to protect this area, how can these people—

Mr McKelvey: That is the question that is on everybody's lips. Certainly on the two floors of the department, obviously, the relationships are not too good between the biodiversity side of DECCW and private native forestry. The worst issue is that, even though they have been presented with this legal finding and that happened early this year, they still insist on doing nothing. They keep talking about coming back, but they haven't. What council fears most is that there is a review of the private native forestry code due in 2012. Council is very concerned that, because of the difficulties in rewriting the legislation and making it more clear that they really do intend to look

after the koala population, in fact nothing will happen until they do that rewrite in 2012. The worry is, of course, what is going to happen to our koala habitat and population in the ensuing 12 to 18 months.

Senator BOB BROWN: Mr Hibberd, you spoke about the need for a national action plan. Can you see that being implemented under the Environment Protection and Biodiversity Conservation Act?

Mr Hibberd: Yes, either under that or under our national Biodiversity Conservation Strategy, I guess.

Senator BOB BROWN: Or is it an alternative to have separate legislation to protect the koala? Would it warrant that?

Mr Hibberd: That is certainly an option. I think one of the problems with listing the koala is that most of the determinations federally have been done on a national basis and I do not think they have taken full cognisance of the particular threats and stresses that individual disjunct koala populations are facing.

Senator BOB BROWN: You say there are potentially 20 koalas in that disjunct population on the far South Coast. Has that really got the genetic diversity to enable it to grow and survive?

Mr Hibberd: I believe it does. Mr Allen's testimony indicated that the genetic research they had done on that population showed a high level of the genetic diversity. The forests in which they occur, particularly the Mumbulla State Forest, which is where the core population is living, has a large area of other state forest and national park surrounding it. So, if those forests were to be protected permanently, there is a real opportunity for that population to continue to grow and to expand into those other forests. The soils on which those forests occur are very poor, which means that the koalas probably have to roam quite considerable distances in order to find suitable individual feed trees. If a response to protecting the koala is just to draw a few circles around where the existing population lives at the moment, that precludes any opportunity for that population to expand and grow into a more viable size. You are absolutely right—20 is not a viable population. But it is increasing. We have good evidence from people who have seen females with joeys in that area. So it is a breeding colony. It is the last remnant of those vast populations that occurred in the Bega Valley. There is every opportunity, and I would be optimistic if immediate action was taken to protect these forests on which these koalas depend, for that population to survive into the future.

Senator BOB BROWN: When is logging going to occur?

Mr Hibberd: It is slated for this year. It could start as early as tomorrow, as far as I am concerned. It does not require any further decisions to be made on behalf of Forests New South Wales because it has already been programmed.

Senator BOB BROWN: How come it has been programmed for logging if it is koala habitat?

Mr Hibberd: This is the real difficulty of the interagency conflict that exists between Forests New South Wales and the Office of Environment and Heritage in New South Wales. There is a draft Koala Management Framework that was produced in 2008, I believe, which tried to lay down some prescriptions for how we deal with this particular issue. As I said in my submission, this has now sunk without trace into the bureaucracy. The local community has been totally frozen out of any consultation in this process. We have no idea where those negotiations are at, except that we have heard informally that they continually break down because the environment department and the forestry department cannot agree on an effective koala management strategy for Mumbulla State Forest.

Senator BOB BROWN: I know there is Kosciuszko 2 Coast, I think it is called, linkup area.

Mr Hibberd: There is.

Senator BOB BROWN: Is that going to make any difference to the koala's future? Is that a potential linkup?

Mr Hibberd: Those long-term connectivity corridors are primarily focused on linking existing conservation reserves through a range of land management improvements to link in the private lands that enable these long-distance corridors to exist. It is bound up with voluntary conservation agreements, possibly with the odd purchase of private properties. I do not think that the immediate threats that the koalas on the far South Coast face from intensive forestry activities would be saved by the Kosciuszko 2 Coast program.

Senator BOB BROWN: Thank you.

Senator CAMERON: Thank you for helping us on this. It is a very complex and interesting issue. I suppose the question that senators have to deal is the current act and whether the act is sufficient to protect koalas or whether the act should be changed to pick up some of the points that previous witnesses have made—that you have to take in what they have described as a triple bottom line, which is about jobs, supply of housing and the like. What is your take on the two polemics?

Mr McKelvey: Our plan in Coffs Harbour certainly allowed for the fact that we are a growing community. We did the planning and it did upset some developers because it reserved some of the lands that they had hoped to develop. But that still has not stopped the local community or the city area from growing. We are supposed to be a city of 100,000 people by 2030 and things are going along pretty well towards that end. One of the things that certainly would help would be a recognition that puts a value on conservation—in other words, for people who do conserve areas if there was some national system put into place so that a value was put in place for that conservation, that may take some of the pressure off it. But the main problem that we are having in Coffs Harbour is lack of conversation and lack of discussion—and is not interdepartmental; this is the same government department—in regard to how they are going to manage the koala population. It is interesting to note that DECCW's foremost expert on koalas, Dan Lunney, was never involved in the discussions about private native forestry and has not been involved in any discussions, other than discussions with Coffs Harbour City Council. Certainly, people involved in private native forestry have still not spoken to him about the problem of licensing logging in identified core koala habitat.

Mr Hibberd: I think my comments are that there are two particular problems with the current EPBC Act. One is a problem, as has been alluded to earlier, with the actual definitions of 'vulnerable' and 'endangered' under the EPBC Act. There is very strict scientific interpretation of those that makes it very difficult, particularly for a national population of koalas, to be listed, although I would ask the committee to look very seriously at how specific individual populations could be protected. The other problem is that the regional forest agreements are specifically excluded from consideration under the Environment Protection and Biodiversity Conservation Act. This is a real problem as well. The IFOAs, which are the key operational regulatory instruments under the regional forest agreements, are not protecting threatened species or ecosystem processes. So there are two problems, as I see it, with the current act.

Senator CAMERON: I think there are more problems than two, actually.

Mr Hibberd: They are the two key ones.

Senator CAMERON: They are the two key ones from your perspective, yes. But we have to grapple with a whole range of problems, I suppose. One is section 34D of the act, which defines the minister's obligations under the act. One of the obligations the minister has is to have regard to any approved conservation advice for the species or community. So, if the minister has to take into consideration that issue, you come back to the Threatened Species Scientific Committee. That is where the advice comes from. The more I look at this advice from the scientific committee the more I am confused about where we go with it. As you have indicated, it says that the committee considers the koala to be potentially eligible for listing as vulnerable and then it says that we need better demographic data.

Mr Hibberd: By which time the koalas become extinct in certain parts of Australia.

Senator CAMERON: You see, the argument from the previous submitters was that we should go through what is on the surface, I think, a legitimate process—let us have a look at what is happening nationally and then let us have a look at how that affects business, the koalas and the like. But that might be a diminution of what is in the act now, because the act does not require the minister to have a look at the economic arguments. In the act it is about the environmental sustainability. So would you support widening the act to what the previous submitters have put, and that is to include the economic—as they described it, triple bottom line—argument? Should the act be widened or should it remain focused on the environmental issues?

Mr Hibberd: The act is called the Environment Protection and Biodiversity Conservation Act; it is not called the triple bottom line act. I think there are other mechanisms in government to ensure that the economic and social impacts of government decision making are fully taken into account. I really do believe that we have a moral and ethical responsibility to make sure that other species on this planet do not become extinct as a result of our actions.

Mr McKelvey: I agree.

Senator CAMERON: The scientific committee put five points in on the last page of their advice to the minister. They say that one option that the committee can consider for resolving the conundrum, as they described it, was to constrain listing to only circumscribed, distinguishable, regional populations of koala. However, this option was not justified based on the evidence before the committee. We have had evidence from the Eden area this morning. I'm just wondering, given that evidence, do you have any understanding of why the scientific committee would not list a population of 50 koalas in a wide region like the Eden region?

Mr Hibberd: I have no understanding of why they would not do so. As a professional ecologist I would argue very strongly that there is sufficient evidence from that enormous body of community and agency work in the

south-east forests that Mr Allen referred to that we do have enough data to indicate that that population is critically endangered and should thus be listed as a regional population.

Senator CAMERON: They then go on to say that a properly designed, funded and implemented national koala monitoring and evaluation program across the full range of the koala is imperative. Do you agree with that?

Mr Hibberd: Absolutely.

Senator CAMERON: Do you have any idea of what the cost of that would be or what timing would be needed to make sure that koalas are not just left to die while there is a bureaucratic process taking place?

Mr Hibberd: I think the costs could be not inconsiderable. It would obviously need to be prioritised in terms of koala populations that were seen as particularly under threat or stressed. I do not have the information to make an estimate as to the actual dollar cost. I fully agree with the recommendation. I think an independent monitoring and auditing program is absolutely critical. One of the problems in the past has been that koala conservation has been bedevilled by differences of opinion on how you survey and measure koala numbers. I think certainly the work that I have been involved in through Mr Allen and others and this use of this grid-based sampling program has shown that, with the enormous amount of community interest and willingness to participate in field surveys, that information can be collected, it is scientifically rigorous and it can be used to make management decisions on koala conservation.

Senator CAMERON: The third point they raise is the design and implementation of a nationwide development planning protocol to prevent habitat loss and manage threats in areas of significant koala populations. I want to ask you two things about this. First, do you support generally the recommendation and what is from your point of view the definition of a significant koala population?

Mr Hibberd: I think the Commonwealth might run into some negativity from the states with any national planning protocol because I think the states see that very much as their own responsibility. I think we already have a mechanism called Matters of National Environmental Significance under the EPBC Act. We have a system whereby development proposals—and a development proposal can be a logging operation or vegetation clearing every bit as much as it can be the development of a housing estate—require referral under the EPBC Act if there is a matter of national environmental significance listed for that area. It is a fairly robust system and it certainly works very well in the ACT jurisdiction, where I am most familiar with it. The problem is that the EPBC Act has been turned off by the regional forest agreements since the supply of timber to the forestry industry is the basis of those regional forest agreements. One of the single quickest acts that the Commonwealth government can do is reinstate the EPBC Act as applying to the regional forest agreements. That would instantly bring into play a whole range of regulatory and assessment requirements for koala habitat as well as for many other threatened and endangered species.

Senator CAMERON: The last point was the implementation of targeted threat management strategies. What does that mean, do you know?

Mr Hibberd: It means doing something—not talking about it and not having more strategies and more plans but actually getting out there and doing something, talking with the states, providing them with incentives, encouragement and facilitation to actually make a difference.

Senator CAMERON: We have had discussions about stranded koala populations. Can I get your views on whether, if there is a stranded koala population on an area that can be developed for, say, low-cost housing—let us take the most reasonable approach, which you would want to do if it for low-cost housing—is it feasible, in your view, to move that koala population to another area?

Mr McKelvey: In a couple of instances in Coffs Harbour there have been attempts to move some individual koalas out of an area. They were taken quite a considerable distance away and unfortunately they were killed close to their home area trying to get back to it. My understanding is that the koala is pretty much like us—once they have a home that they are pretty comfortable with, they like to hang around it. My experience is that the ones they did try to move in Coffs Harbour have not made it, unfortunately.

Senator BOB BROWN: That is a very important piece of information. I know this happens with brush-tailed possums—you can take them where you like, but they will come back again and they run the risk of being killed en route. What we know about territoriality and the tendency to go back to territory in koalas?

Mr McKelvey: When you start to drill down to questions like that, I do not know whether there is a lot of information about that sort of stuff. I try to read as much as I can about it, but we are finding in Coffs Harbour that a lot of the information we gather on koalas is through the processes that we are able to gather locally. We have support from vets and WIRES and those sorts of organisations as well as businesses that assist the council and the koala management committee in looking at health issues and issues of mortality when we find dead ones. We are accumulating our own information, because it is pretty scarce out there in some instances.

Senator BOB BROWN: Do we have any evidence of koalas being translocated who have not moved and who have stayed where they have been put? Does that depend on whether that area is occupied or whether it is vacant?

Mr McKelvey: I do not know how successful it was, but I did read something about how they were going to remove some of the koala population from Kangaroo Island off South Australia. I am not sure exactly where they ended up going or if in fact it took place. But one would assume—

Senator BOB BROWN: They would have a bit of trouble getting home, wouldn't they?

Mr McKelvey: There was going to be a bit of trouble when they got to that swimming part if you think of *Jaws* and all of that sort of stuff.

Senator CAMERON: We have spoken about the killer koala.

Mr McKelvey: I think they would have a bit of trouble fighting back.

Mr Hibberd: From my perspective I understand that most of the scientific literature that does exist on this shows the koala translocation is extremely complex and difficult. I think it would be a far better use of our limited resources in Australia if we try to maintain and enhance their existing habitat than to try to move them to areas that may or may not be suitable habitat for them. Given that any individual koala population has probably moved into a situation of comfort with the food trees that they are currently feeding on, to move them into a new area where there are a suite of trees that may have different toxin and nutrient concentrations would create additional stresses, in my view, upon those koalas, thus adding to the difficulty of making a translocation work. I am not saying that it might never work in some critical situations where, because it is of such importance to society that particular area must be developed—perhaps for a hospital or some other major infrastructure. I'm not saying it might never, ever work. But I am saying it is fraught with difficulty and should not be seen as the first option.

CHAIR: Thank you very much for your evidence here today and, in particular, Mr Hibberd for the colour that you have added, somewhat involuntarily.

Mr Hibberd: Thank you, Madam Chair and members of the committee.

Mr McKelvey: Thank you.

MELZER, Dr Alistair, Program Leader and Adjunct Research Fellow, Koala Research Centre of Central Queensland, Central Queensland University

[12:33]

CHAIR: Chair: Dr Melzer, you have been nodding your head, at times, right at the rear there, so now you get your opportunity to have your say. Do you need to change anything in your submission?

Dr Melzer: As long as you will pardon a few small typographical errors, no.

CHAIR: In that case, can you make a brief opening statement to the committee.

Dr Melzer: Thank you—it will be brief. I have been working with koalas for a long time. In that time, I have gained experience of koalas in all of the eastern koala states and had a brief look at the few koalas in Western Australia. I have done all of this work largely through community based support. I started my involvement with the koalas through the support of the Australian Koala Foundation and another organisation that was allied with them, then subsequently through baseline community support, through community volunteers locally and then, more recently, with the support of larger industry—the mining industry in particular. I come from central Queensland, so that is coalmining and other bodies. My group works in close collaboration with a number of other institutions such as the University of Queensland. I think you have heard from Dr Ellis from the Koala Research Network and previously Professor Frank Carrick. I am also a founding member of the executive of the National Koala Network. That is probably enough for the moment, I think.

CHAIR: What does 'depauperate' mean in the context of koalas? Does it mean poor doing?

Dr Melzer: I am not sure of the phrase I used it in. If I am talking about habitat—

CHAIR: You were talking about genetically depauperate race of koala in my home state of SA, coincidentally.

Dr Melzer: Yes. It means very low diversity—a poor pool in this case. Poor quality genes is a very basic way of saying it—low genetic diversity leading very often to signs of inbreeding and the like.

CHAIR: Bad for us and bad for koalas.

Dr Melzer: Apparently, yes.

Senator BOB BROWN: You say that western and central koala populations have contracted or collapsed over the last decade or two due to drought and tree deaths. Is there any sign of recovery now that the drought is over?

Dr Melzer: It is too early. The recent floods—and there were also a couple of good wet seasons leading up to those floods—have recharged aquifers and that will allow for stressed trees individually to show signs of recovery and possibly for some germination events to go ahead. But the tree mortality that occurred was quite severe. We are not talking about dieback of trees—we are talking about die-off of trees. So the re-establishment of that habitat requires germination, growth and maintenance of those trees. The observations I have got in my study areas, or one of them, is that, after the tree death, there was either an intense growth of understory, which would be suppressing regeneration naturally until something happened to disturb that understory, or, in grazing lands, the browse pressure from stock—in this case, sheep—would be suppressing regrowth in those situations. In the other site, which is cattle country, there was evidence of seedlings and saplings and stock were not browsing those species. The colloquial evidence that I have been getting over the last 20 years in central Queensland corresponds exactly with Chris Allen's comments about a 30-year period of lack of disturbance. Property owners generally talk about 30 years from when they last saw koalas to when koalas came back. The general feeling I have is that it takes about 30 years for a koala population to recover from a significant event.

Senator BOB BROWN: I take it from that that, if we were not to see a return to drought, there may be recovery 30 years down the line.

Dr Melzer: If the available habitat was there, the koalas could recover, I would hypothesise, in around 30 years. A koala in central Queensland lives 10 years, so it is three koala lifetimes.

Senator BOB BROWN: Have you looked at the projections due to climate change? How does that fit in with the potential for a 30-year comeback of the koala?

Dr Melzer: I am trying not to be pessimistic.

Senator BOB BROWN: We do need to hear it as it is.

Dr Melzer: The koalas in western Queensland or the dry parts of Queensland, because some of those come to the coast as well, have been living with periods of intense drought, intense wet and pulses of fire and the like for a long period of time and, in fact, drying cycles that go back hundreds of thousands of years. So some of those populations, in my view—and nobody has looked—are likely to be now adapted to those challenges. However, what is now different is that our landscape is extensively cleared and largely fragmented so that, where a population becomes locally extinct due to one of these challenges, there may not be an opportunity for recolonisation to occur. That is the first thing. The second thing is that, as the climate change predictions, if they eventuate—and they appear to be, at least in our short term of observations—we would expect to see shifts in plant communities in our region from those which are perhaps used to a more moist environment to those that are adapted to more harsh environments. So a decline, say, in Queensland forest red gum or *Eucalyptus tereticornis* and a relative increase in river red gum, *Eucalyptus camaldulensis*, may occur, as an example. So that is a shift, say, from a Springsure-like environment to a Tambo-like environment as things dry out.

Senator BOB BROWN: What would that mean for koalas?

Dr Melzer: The expectation would be that the abundance and distribution of the koalas in a previously moister environment would shift to an abundance and distribution more typical of a more arid environment.

Senator BOB BROWN: And what is the difference between abundance and distribution of those two environments?

Dr Melzer: There is a greater focus on the integrity of the riparian zone in the drier environments and an overall lower density and relative abundance in the drier relative to the wetter environments. Also, as the plain communities open up, referring back to some earlier discussions, those koalas that have to spend more time on the ground between trees, which they do extensively in Queensland anyway, they become more vulnerable to those things that may prey on them whilst they are on the ground.

Senator BOB BROWN: How would you assess the koala population of Australia?

Dr Melzer: I believe that it is in serious trouble for two reasons, as I have said in my report. In those areas that are drier or more vulnerable to the predicted climate change issues, those populations are already declining, have declined or are likely to decline in the near future. Those environments that are more amenable to koalas happen to be the climates that are more amenable to humans, and they are subject to intensive population growth and intensification of development. There is a further complication in areas where resources are focused and along the routes where resource corridors are established. In my region, that is the coalmining zones and the resource corridors that link them to the coast. I see a dichotomy between the coastal zones that are subject to intensifying development and the associated resource zones and their export corridors and then the more regional areas where, currently, resources are either not present or not targeted for development. They have two completely separate sets of planning and management needs. At the moment they are being confounded. One of the things that impresses me about this inquiry is that there is an overview of the whole suite of issues around koala management nationally coming to this table. It allows a different perspective to that which was provided to the Threatened Species Scientific Committee, which was focused totally on scientific opinion.

Senator BOB BROWN: You talked about a 30-year recovery, but do you know of an area that has been depopulated of koalas which has seen them re-established?

Dr Melzer: No.

Senator BOB BROWN: We heard earlier from the development folk that they would have offsets where they would put koalas. Do you know of any example where an offset has been successful in establishing a koala population?

Dr Melzer: Not within the context of the offsets. However, there are two examples where that has happened by default, I guess, at least in Queensland, and they have been in the introduction of koalas to two islands off the coast of Queensland—St Bees Island and Brampton Island. That was not done as an offset, but it is an effective example of where habitat that was empty because it was an isolated island was effectively populated with koalas and those populations, at least at this stage, after 80 years, appear to be stable.

Senator BOB BROWN: Do you know of any areas on the mainland where that might happen?

Dr Melzer: None at all. And there are problems. I should say, though, that I am not an expert nor do I have a lot of direct involvement in the offset process. However, I have worked with some areas of industry where offsets have been required and I have listened to their complaints. Their complaints have been that, under the current regulations or legislation—this is what they say to me—the offset policy did not allow them to invest in a strategic offset program. It was effectively a postage stamp approach. If you knock down 10 hectares of, say, koala habitat here, the government would say to you that you will need to find some multiplier effect—say, 100

hectares—of offset area in the same region, even though it may be in an area that is going to be developed, intensified development may occur or it may be isolated in the middle of grazing paddocks or whatever. They were keen to try to negotiate a process whereby they could contribute to a well-considered strategic program which was actually putting habitat back where it would make a difference.

Senator BOB BROWN: Just using your local knowledge of the Bowen Basin or the area of the Darling Downs that is facing coalmining and/or coal seam gas development, can you see some way in which these developments can proceed without impacting on koala populations adversely?

Dr Melzer: With the coal seam gas, in theory, yes. That is because the actual nature of the footprint of the coal seam gas is small relative to the movement of koalas. So you could move around patches of trees and the koala can walk across a roadway. But, when you come to coalmining, where you have open cut mining and very large haul roads, often with high levels of traffic on them and lots of obstructions, wherever koala habitat is within the footprint of the mine itself then it is impossible to avoid an impact. However, coalmines—in fact, all of these resource industries—have the resources to be able to contribute more effectively, and some are, to the management of koalas and other species in a number of ways. First, they have access to a lot of resources. Each individual company is a lot richer than an individual property developer, so they have more room to move. Also, there are large areas around mines that are within their leases but are not within their mine footprint which are effectively placed under some form of de facto conservation tenure because all other activity is excluded within them. If they are effectively managed, they can contribute to a conservation outcome. Thirdly, they have the opportunity, because they have the resources, to buy up large areas of land that could be either protected or recovered for koalas or other species.

Senator BOB BROWN: Has that opportunity been taken as a general part of the process?

Dr Melzer: My understanding is that, within the state government and within the mining communities, there are efforts to achieve that. I do not have the details that would allow me to answer that with any statistics.

Senator BOB BROWN: Mr Mifsud this morning—I do not know if you were here—was talking about the emerging concern about wild dogs. While the evidence was not, I do not think, direct, it was nevertheless concerning. He was saying that coal seam gas, for example, if I have got it right, added roading and clearing of land, which did lead to greater potential for predation by dogs in those regions on koalas. Do you have any comment on that?

Dr Melzer: I do. First, I have a very small property and I have dingoes that work across that property. You would probably call them wild dogs. I know from direct observation that, when I clear a fire trail, the dingoes will follow that. So they certainly do use the easiest path that allows them to move quietly and across the landscape. So I would support that observation. However, I have some concerns about the issue of dingoes or wild dogs. There is a schizophrenia around—inside a conservation zone they are dingoes and outside of a conservation zone they are wild dogs. In Queensland, they are protected when they occur under some sort of conservation tenure, but they are able to be managed when they are outside of it. So there are all sorts of schizophrenia. In cattle country there is less concern about them, although people do have problems with some wild dogs. But in sheep country there is a real concern because there is quite clearly an impact of dingoes on stock. Dingoes do take koalas from time to time. Particularly in more open country, where they have to spend more time on the ground, you would expect that the impact would be more severe. I suspect that the understanding of the predation of dingoes and wild dogs on koalas in the sheep country in the south has been underestimated. I have also just recently had accounts of significant predation particularly of young koalas by foxes in Victoria as well. That has just come to the fore in the last few weeks at least.

Senator BOB BROWN: Is that information available to the committee to have a look at?

Dr Melzer: It is anecdotal information.

CHAIR: So it is not. It is not in written form, Senator Brown.

Senator CAMERON: Would you fall within the definition of an acknowledged expert in koalas? I know it is a tough question to say, 'Yes, I am an expert'.

Dr Melzer: Yes.

Senator CAMERON: So you are?

Dr Melzer: Other people have considered me to be that, yes.

Senator CAMERON: Were you consulted by Threatened Species Scientific Committee?

Dr Melzer: Yes.

Senator CAMERON: So I assume then that you have some knowledge of the result of the deliberations of the scientific committee?

Dr Melzer: Yes, I have read that.

Senator CAMERON: Do you agree with the view of the scientific committee that the koala is potentially eligible for listing as vulnerable?

Dr Melzer: I was surprised that they actually went that far. I think that the problems with listing the koala are an inevitable consequence of the process. To get the information necessary to meet the criteria requires a significant investment in data gathering. I should say that the process looked at scientific data and gave more weight to peer-reviewed published data than to data that came from unpublished sources or that came from anecdotal community sources. That again is part of the process, so that is what I would expect. As I argued in my submission, by the time we move into that level of classification, it is almost too late.

Senator CAMERON: So there is a fundamental flaw with the act that determines the work of the committee and the decision-making capacity of the minister, from your perspective?

Senator FISHER: Or is the flaw with the science?

Senator CAMERON: Just behave yourself.

Senator FISHER: Yes, Senator. I will try, Senator.

Dr Melzer: Senator Fisher, I will come to your question in a minute.

Senator CAMERON: When I am finished we will go to her question.

CHAIR: It is Senator Cameron's call.

Dr Melzer: But it is very valid point.

Senator FISHER: I suspected so.

Dr Melzer: The process does not take account of the broad community knowledge. It does not take account of the naturalists within the community—those people who are working on the ground—nor does it take account of scientists who have observations that are not publishable or have a sense from limited data that things are going the wrong way. I think the committee in their report gave some hint that they were aware of the concerns that the scientific community at least had in those meetings. But they are tied, I think, in how they can address them. I can see avenues as to how that could be addressed, but it needs investment.

Senator CAMERON: Can you take that on notice if you are in a position to give us the information about how you see that could be addressed? We do not have time to go through all of it now. Could you take that on notice and provide us with some further information on that point?

Senator FISHER: Senator Cameron, if I may: and also the role of the science and the scientists in that context as you see it.

Dr Melzer: Yes.

Senator CAMERON: I suppose this goes to the issue of the definitions in the act and the definitions that the scientific committee operate under. I had a quick look at who is on the scientific committee. They are obviously very eminent scientists. They are not there because they are trying to kill the koala; they are there because the government is taking advice from them. But the act, in my view, has some constraints. Some of those constraints, in my view, are the criteria that they have to operate within. They have categories called 'critically endangered', 'endangered' and 'vulnerable'. If you look at 'vulnerable', it means a substantial reduction. That substantial reduction is a reduction of 50 per cent in the population over a period of time. It seems to me that there may need to be a relook at some of these definitions and categories in the act. Would you agree with that?

Dr Melzer: My sense is that the reliance on the IUCN criteria and these definitions are certainly allowing us to classify situations but it is not allowing us to manage for the conservation of biodiversity. In a sense, these things are too late unless we as a society and you as a government want to provide a substantial investment in sentinel monitoring of our ecosystems generally and, in this context, of koalas and their habitat.

CHAIR: What you mean by 'sentinel' in that context—signalling?

Dr Melzer: It is like having a look-out.

CHAIR: Like a lighthouse?

Dr Melzer: A lighthouse is a warning, but in this case it would be someone or something that is looking for changes and having a network of those across your area of interest.

Senator CAMERON: There are restrictions on what the minister can do under the act. The minister has to take advice from the Threatened Species Scientific Committee. If you are saying there are limitations on the

scientific committee to act effectively, quickly and in time then the minister, who has to rely on this flawed process, must have real difficulties saving a threatened species, surely?

Dr Melzer: I agree. I would take advice from you on a species that has been saved through the legislative process. Maybe the hairy-nosed wombat. It is up to nearly 200 now.

Senator CAMERON: The former secretary to the Treasury is trying hard.

Dr Melzer: Yes, indeed. I heard some very good stories. If we take a model of where we could go with the koala, there is a species of wallaby called bridled nailtail wallaby that used to exist across continental eastern Australia from Victoria up into central Queensland. It is now naturally restricted to one small scientific park in Queensland called Taunton National Park (Scientific). Its estimated numbers are now down at I am guessing 200 animals. This species breeds like a rabbit. You cannot stop it from breeding when you put it in captivity.

Senator CAMERON: Another scientific definition.

Dr Melzer: Indeed, yes. And it can be translocated, but its survival depends on ongoing management, particularly of predators, because it falls into the critical size range particularly for feral cats, foxes and also dingoes. This is where the koala could be within a very short period of time. The animal still has an extensive distribution, but it is in fragmented populations and those individual populations are now switching off like lights, one by one. The assessment of its extent of distribution belies the loss of the population. It looks like we are okay. We are biased by the overabundance and abnormal mob in Victoria and South Australia. In that context, those Eden koalas are probably the most critical population in Australia in the sense that they may represent one of only two reservoirs, very small ones, of what is the native genotype of all of the Victorian and South Australian animals left.

Senator CAMERON: Did you say the Eden koalas?

Dr Melzer: Yes, the far south population that Chris Allen was talking about.

Senator CAMERON: The scientific committee deliberately rejected saying that they should protect small areas like Eden. Do you have any idea why they did that?

Dr Melzer: No, I would probably need to read their report more closely to see if they explain it.

Senator CAMERON: They do not mention Eden. One of the options for them was to look at protecting small areas, but it would cause too many—

Dr Melzer: Queensland has done it in relation to south-east Queensland. They have had a separate listing for the south-east Queensland koala and a different listing for the rest of the state. The growing evidence is that there is a range of genetically different koala populations across its range, each probably regionally adapted. As we lose those, we are losing things that perhaps are preadapted to climate change or preadapted to changes in the landscape that we create. We do not know until we look. But the Eden one is for me quite an exciting one.

Senator CAMERON: I will quote from the scientific committee. They say, 'one option the committee considered for resolving this conundrum was to constrain listing only to circumscribed, distinguishable regional populations of koalas. However, this option was not justifiable based on the evidence before the committee'. That is one of these problems with this scientific report. Given the evidence we have had before us about the Eden koala population, how you can come to that conclusion is a bit of a worry.

Dr Melzer: It may be that there has only been a limited number of studies on the distribution of regional genotypes. You have to put some money into catching the koalas and doing the testing across regions and look at the differences. That requires some investment. It is one of these areas where more investment may be required if that is considered to be important.

Senator BOB BROWN: What you are indicating to the committee is that those 20 koalas isolated on the South Coast may be inordinately important because of their genetic makeup?

Dr Melzer: That I suspect is my opinion. I have always speculated that those south-east New South Wales koalas would represent the native Victorian type because I could not see an ecological barrier that followed the state line. Although the koala became almost extinct in Victoria, it survived in south-eastern New South Wales until it suffered from clearing and logging there as well. It still survives, so that makes it much more important, perhaps, than all of the overabundant populations in the rest of Victoria.

Senator BOB BROWN: I would like to go back to foxes. You did have some anecdotal evidence there. Can you quickly encapsulate what that was?

Dr Melzer: I have just established, in conjunction with Dr Desley Whisson and Earthwatch, another community organisation that supports us, a koala study down near Apollo Bay in Victoria. It is an overabundant population yet again. There are observations there of foxes taking and killing koalas. They have been observed by

students from Deakin University. An email was circulated just after I returned from there—that is less than a week or so ago—from a member of our local community who was concerned that we, the koala scientists, were not taking account of the impact that foxes were having on koalas.

Senator BOB BROWN: Would you be so kind as to see whether, with permission, you could have that email or any germane evidence given to the committee?

Dr Melzer: Yes.

Senator BOB BROWN: What is your opinion about feral cats?

Dr Melzer: That is where I think dingoes are really useful. I have no evidence at all of a feral cat taking a koala. It would be a very brave feral cat to do so. However, a back young—that is, a young koala on its mother's back—would be the right size to be taken by a feral cat. I do not discount that they could be taken, but I have no evidence of it. However, I do have evidence or observations of dingoes occasionally taking a koala.

Senator BOB BROWN: Was the fox kill that you have anecdotal news about a mature koala or an immature koala or koalas?

Dr Melzer: From memory I think it was an account of both.

CHAIR: To the extent that there might be some incursion on the feral cat population by wild dogs, would that give some very marginal relief to koalas in the same environment?

Dr Melzer: I do not think that, at least in the environment where I work, feral cats would have a significant impact on koalas. There are much greater impacts coming from either climate change issues or development issues.

CHAIR: Just on your suggestion effectively about getting in earlier, if I can put it that way, than the EPBC Act allows for certain species, how would you actually implement your sentinel type proposition for koalas and then more broadly without growing the tentacles, if you like, of the EPBC Act so that arguably it took the balance too far the other way?

Dr Melzer: There are some mechanisms that are already in place that could be used. For instance, there is broad-scale assessment of plant community cover and knowledge in remote sensing techniques for looking at community health as well. So you could certainly look at the state of koala habitat across large areas using satellite based imagery and analysis and interpreting that in terms of the state of koala habitat. There is useful knowledge that sits within related information but also coming from the met bureau and perhaps CSIRO, on the impact of drought and drought declared areas on koala habitat. Also, the assessment of fires using the satellite based fire mapping programs that are out there now would also allow indices of areas of koala habitat that are impacted by catastrophic fire to be assessed. Those could be done quite easily. Following trends in koala populations is more expensive. This is what we have tried to do with community support. We have a small network of these relatively long-term monitoring sites in central Queensland. If you took those as a model, you would establish a site in an area of known koala population and you would assess the koala population trends and the state of the environment around them on an annual or biannual basis. You would be looking at setting them up in what you considered to be key habitat types or bioregions and then you would assess them. You would probably need \$100,000 per site.

CHAIR: So it is very much a physical sentinel presence you are suggesting. How would that be different from the admittedly ad hoc, if you like, assessments that are happening at the moment? Is it that you would be recommending that it be organised and funded? What is the difference?

Dr Melzer: Yes, we do need it to be organised. One of the problems that the Threatened Species Scientific Community had was that the data from North Queensland was limited. It was limited because you would need a larger effort to collect the data. Chris Allen also indicated that a very large effort was required to collect data. Most koala populations outside of Victoria and South Australia are low-density and widely distributed. So you need to put the person hours on the ground often to get the numbers. The data that I collected from Springsure and that has been collected from the Darling Downs shows the problems you have when you do not continue the effort. Both the Darling Downs sites and the Springsure sites were originally monitored by Dr Greg Gordon from Queensland Parks and Wildlife, now retired. He followed them annually for some time. Then when that stopped—because, of course, he was on staff—and the community based monitoring took over, it happened much less frequently. At Springsure we have before and after data and no trend in between. It is there and then it is not. At the two sites at Oakey there is a string of years from the early 1970s to about 1980 and then there is 2003 and I think 2010, when they were revisited at two other points. They did not give me the area of their study, but one of those sites shows the koalas going from about, say, 20 koalas in whatever unit it was down to zero in one year and

one in another year and in the other from about 25 or 30 down to about 10 or so in two other points. That is hardly enough. It shows a collapse has occurred, but it is not enough to relate it to a particular cause.

CHAIR: In terms of recommending a sentinel type approach, are you recommending much different from the Property Council in their submission, where they said, 'We strongly support a national review of the koala population and habitat to ensure that a holistic and scientific approach to its health and sustainability is undertaken'. Would you perhaps agree with that but also add that it needs to be in a monitoring type sense, to take your sentinel recommendation?

Dr Melzer: I take a pragmatic approach in that things need to be done. We have had, as many have said, a number of years of surveys, plans and discussions. I think that we need effort to allow us to deal with key issues. Sentinel sites provide data on trends in populations and trends in habitat condition. That is not doing a national assessment—

CHAIR: A snapshot.

Dr Melzer: It is not just a snapshot; it is something that can be ongoing. I must say in defence of the Property Council that the empirical evidence is that in appropriate situations koalas live quite happily with different levels of development in various farming situations, industrial situations and appropriate urban developments. The problem is that they do not do well where we do not behave ourselves. It is not because of the houses that koalas are dying; it is because we squash them or get our dogs to eat them or they drown in the swimming pools in intensified areas.

CHAIR: Thank you. I had better behave myself as Chair and draw your very interesting session to a close. Thank you very much for your evidence today.

Proceedings suspended from 13:15 to 14:05

**LEVERINGTON, Ms Andrea, Assistant Director-General, Queensland Parks and Wildlife Service,
Queensland Department of Environment and Resource Management**

**OESTREICH, Mr Wade, Director, Koala Policy and Operations Branch, Queensland Department of
Environment and Resource Management**

WHITE, Mr Gary, Government Planner, Queensland Department of Local Government and Planning

CHAIR: Welcome. I know that, as departmental officers, you will be looking forward to not being asked questions that require you to give opinions on matters of policy, although, of course, that does not stop us from asking for explanations of policy or factual information upon which the policy might have been based or from asking questions about how and when policies are adopted. We have a submission from the Department of Environment and Resource Management. Are any corrections to your submission necessary?

Ms Leverington: No.

CHAIR: Ms Leverington, I invite you to make a quick opening statement and then I will invite you, Mr White, to make one.

Ms Leverington: The Queensland government is tackling koala conservation head-on through a \$60 million Koala Response Strategy. It was announced in 2008 and it is an integrated approach to addressing the key threats to koalas, being habitat loss, car strike, dog attack and disease. The focus is on south-east Queensland—an area that contains two of Australia's most significant wild koala populations. These areas are the Pine Rivers and the Koala Coast areas. These are under huge pressure from increasing human population growth. Koala population studies in these two areas have shown marked declines in the order of 50 per cent in the two-year period to 2008. While only trend data is available for Pine Rivers, the last population estimates for the Koala Coast place it at around 2,200 koalas. As part of the strategy, the Queensland government committed to a net increase in mature and actively regenerating koala habitat by 2020. In order to deliver a net gain, existing koala habitat areas must be protected while effort is invested in building new habitat. To protect the habitat, the Queensland government introduced two new state planning instruments—a state planning regulatory provision and a state planning policy. The regulatory provision applies principally to the priority areas of Pine Rivers and the Koala Coast, where the evidence was that protection could not wait. The regulatory provision overrides planning schemes and requires councils to assess new development applications against the planning regulatory provision codes. If applications do not comply, they cannot be approved. The regulatory provision contains a number of strong measures, particularly in the priority areas. Here development is prevented from impacting on mapped bushland habitat, offset provisions require five new koala trees to be replanted for each mature koala tree destroyed and prohibitions apply on applications to rezone land from rural areas to urban zoning. The regulatory provision works in conjunction with the state planning policy to provide comprehensive protection. The planning policy directs development of local planning instruments and land use planning decisions in seven of the 10 south-east Queensland local government areas. It requires that the two objectives be delivered through this process and that the planning system results in net gain in koala habitat that makes a positive contribution to the sustainability of koala populations in that area. It also requires the offsets and local planning instruments. The new planning laws have only been in place for 12 months and it is too early to comment on their success. However, they are a significant tool in preventing habitat loss. DERM's expanded koala population survey and monitoring program for south-east Queensland will also provide better data to inform these population trends. We are expanding our regular survey and monitoring program to the bulk of the SEQ area to establish clear baseline data on koala populations. This is at a cost of \$2.5 million over five years. These planning laws are complemented by a \$48 million habitat acquisition and rehabilitation program that targets acquisition of degraded koala habitat that can once again be restored to good quality habitat. DERM also runs the Koala Nature Refuges Program, which is set to protect over 2,000 hectares of koala habitat in its first round. Round 2 has now commenced and is expected to be even more successful. Nature refuges are voluntary agreements that bind the current and future landholders to protect the site's environmental values.

The Queensland government is also tackling the problem of koala road mortality. It has committed to a \$10 million scientific trial of new lower-cost threat mitigation measures that can be retrofitted to existing roads. Koala

disease research is also being funded, with four projects being allocated a total of \$400,000. The Queensland government is supporting local governments to take tackle dog-related koala mortality. It has developed a model local law for animal management that will allow councils to immediately incorporate that into their suite of local laws. This strategy provides the most appropriate means of conserving koala populations while also providing for other public objectives of the Queensland government, including housing supply and affordability.

Should the Commonwealth make any significant change to its own legislation regarding koalas, we believe the most value would be gained from focusing that regulation on matters that complement Queensland's existing framework rather than regulating similar things. Queensland has been an active participant and supporter of the national koala conservation management strategy and would support its ongoing use to co-ordinate koala conservation in Australia.

In summary, the Queensland government recognises the need to take urgent action to prevent further declines in koala numbers, especially in south-east Queensland. It is preventing habitat loss through its planning regulations. We are purchasing and revegetating land that is high-value koala habitat. We are working on other critical issues such as koala road- and dog-related fatalities and we are supporting research for koala-related diseases. While Queensland has done much, there is more that can be done across the koala's national range with assistance from the Commonwealth, particularly in the area of supporting monitoring of populations and research into diseases.

CHAIR: Thank you. Mr White, do you have an opening statement?

Mr White: I do not have much more to add other than what has already been said in relation to the actions that have been taken with regard to the introduction of the measures within the planning system. What I would add, though, to what was outlined in the initial submission is that, under our legislation, the Sustainable Planning Act, the development and recognition of biodiversity is a front-end consideration now in the development of all planning schemes that local governments may prepare. It is also a fundamental platform that is reflected in a regional planning regime that we are developing for the entire state. South-east Queensland has a regional plan. The regional plan in south-east Queensland to some extent was put together after many of the decisions that probably have affected koala habitat in south-east Queensland had heard occurred and hence the planning measures that were just outlined were introduced. But I would just like to make the additional point that now, with the reintroduction of strong strategic content back into our planning schemes, the top-end populating of koala issues are now a fundamental requirement under the biodiversity provisions in both our planning scheme development and our regional plan development as it progresses through the system. I would just add that in addition to what has already been said.

CHAIR: Thank you.

Senator BOB BROWN: Thank you all for coming to our committee. Is the koala vulnerable to extinction?

Ms Leverington: The koala is listed as vulnerable under the Nature Conservation Act in south-east Queensland.

Senator BOB BROWN: Do you think that listing should be national?

Mr Oestreich: I think it is difficult—we would not really be in a position to comment on that matter. That is a matter that is outside the Queensland government's jurisdiction. Also, really it is a matter for the minister, the Commonwealth minister and the scientific technical committee.

Senator BOB BROWN: Why I ask, though, is that it is listed as vulnerable in an area that, we have heard, has perhaps the most robust population left. It seems logical that it should apply to the rest of the population. What is the population of koalas in Queensland?

Ms Leverington: The total numbers?

Senator BOB BROWN: Yes.

Mr Oestreich: We do not have a clear figure for the total number of koalas in Queensland. The study of koala populations in Queensland has been patchy in that we have some very long and deep data on particular populations—three in the south-east Queensland area, being the Koala Coast and Pine Rivers areas and the Oakey population that you have heard referred to in this committee by other scientists. We have long data on those. So we have trend analysis and trend data for those places and we have population estimates for the Koala Coast and we have had previous population estimates for Pine Rivers, but no population estimate has been made for the whole of Queensland, partly because of the sorts of issues that you have heard raised in this committee before—the difficulty in coming to grips with koala populations in Queensland, the tyranny of distance, the low densities and those kinds of things.

Senator BOB BROWN: From our evidence in Brisbane, it would seem that there is general agreement that the population is less than 100,000. Do you have any contrary information?

Mr Oestreich: No, I could not contribute anything beyond that figure.

Senator BOB BROWN: Ms Leverington, you spoke about increased koala habitat and/or offsets. Can you tell the committee about how koala habitat in Queensland has been expanded?

Ms Leverington: We have a number of processes. First of all, we have done some very detailed mapping. We have mapped not only existing bushland that we believe is high-value koala habitat but also we have identified areas that have the potential to be regenerated into the bushland habitat. We have a number of mechanisms for restoring that. One is through the actual acquisition of what we identify as koala habitat. We identify blocks of land that are currently on the open market and put in applications to purchase those properties. We are encouraging the nature refuge process, whereby people will put aside areas of their own personal properties and manage that specifically for koala habitat. We are also identifying areas, as I said before, that could be regenerated and proactively regenerating some of those areas that have the potential to be high-value habitat.

Senator BOB BROWN: It is a bit confusing, because the general evidence that we have had to the committee is that koala habitat areas have been diminishing. How do I tie that up with your observation that it is actually increasing?

Ms Leverington: The Queensland government's aim is to have a net increase in koala habitat by 2020. This is our proactive response to the concerns about habitat loss in terms of buying up new land, buying areas and protecting areas where we can to increase that area.

Senator BOB BROWN: But if you buy and protect those areas, you are just consolidating existing koalas habitat—you are not increasing it, are you?

Ms Leverington: And that is why we are doing the revegetation as well. So there are significant areas where we are doing the replanting and we will be looking at that positive regeneration in those areas that had previously been cleared. That is how we will get our net increase.

Mr Oestreich: Can I add to that. We have two broad arms to our strategy. This strategy, of course, is fundamentally focused on south-east Queensland. One arm is the planning instruments that we have talked about before. We acknowledge that in the past there has been significant habitat loss, particularly in south-east Queensland, as a result of increasing pressure over time and increasing demand over time for housing in that part of the world. We have introduced two new state planning instruments that are aimed at protecting important koala habitat from that particular threat, being urban development. The other arm to our strategy is our conservation management program that Ms Leverington has referred to, being our acquisitions program. It is a little out of the box compared to other conservation programs, but we are targeting land that has previously been cleared with a view to revegetating it to return koala habitat to those places.

Senator BOB BROWN: Wouldn't it be better to protect current koala habitat than try to get cleared land and turn it back into koala habitat?

Mr Oestreich: We consider that we are. That is the core purpose of our two state planning instruments that we have delivered.

Senator BOB BROWN: You said a little while ago that previously there had been koala habitat land lost with developments. I presume you mean roads and freeways.

Mr Oestreich: And urban development.

Senator BOB BROWN: Yes. Has that process stopped?

Mr Oestreich: No, the process has not stopped. I think it may be considered unrealistic to think that it will stop. What we have to do is find ways of accommodating the increased demand or demand for new housing supply in south-east Queensland. That is being done. Mr White will be able to talk more about some of the strategic planning processes that have been gone through to deliver that. The intention is that that be done with the least impact while at the same time we undertake these other exercises that we have referred to—the koala management refuges program and the acquisitions program—as well as requiring offsets as an element of planning in south-east Queensland that requires the replacement of habitat to the ratio of five to one.

Senator BOB BROWN: Do you know of any offset that has been successful in creating a new koala habitat?

Mr Oestreich: Generally?

Senator BOB BROWN: Anywhere on the planet.

Mr Oestreich: Since our state planning instruments have been introduced—and I should say that local government has primary responsibility for delivering the outcomes under the state planning regular to provisions as per the way that our planning system works—there have been developments where offsets have been required for those developments and those offsets are being delivered. So it is a process that is happening.

Senator BOB BROWN: Can you give the committee an area of offset that did not have koalas in it which has been successfully created as a living place for koalas in replacement for an area taken up by development of previous koala habitat?

Mr Oestreich: I am sorry—I do not quite understand the question. Do I know of any areas where there was previously no koala habitat but there is now?

Senator BOB BROWN: Yes, which is an offset.

Mr Oestreich: Fundamentally much of south-east Queensland, if you go back to the beginning of white settlement, was koala habitat. It has been cleared for various reasons—agricultural uses, urban uses—over that period since white settlement. Everywhere that an offset ultimately goes was once koala habitat. What is of interest, certainly, I believe, is whether there is going to be more than there is now. I think that is the objective.

Senator BOB BROWN: Can you give us a street address or a Google co-ordinate for an offset area that has become a koala habitat that was not before—something that was used as an offset for a development which has taken up koala habitat?

Mr Oestreich: I do not have those figures at my fingertips, but I am certainly happy to do some research and provide supplementary information to the committee.

Senator BOB BROWN: Thank you, and look at the question that I am asking, if you would, when you are doing that. It says in your submission that there is provision for compulsory acquisition of koala habitat. Can you give the committee examples of where that option has been undertaken?

Ms Leverington: That has not been undertaken at this point in time, but it is available to the Queensland government if it is required.

Senator BOB BROWN: But it has not been used?

Ms Leverington: It has not been used at this point in time, no.

Senator BOB BROWN: The Mineral Resources Act, I am told, overrides the Vegetation Management Act and therefore potential koala protection. Is that the case in Queensland?

Ms Leverington: Yes, it is.

Senator BOB BROWN: If the Mineral Resources Act is invoked to allow a development to go ahead on koala habitat, is it required that it does not impinge on existing koala habitat? What happens there? Does that requirement get put aside for the development of a coalmine or a gas extraction process?

Ms Leverington: There are a number of different issues that are coming into play there. The NCA also comes into play there in terms of animal breeding places and there are a number of offsets that are required through the biodiversity offsets policy that is currently in place in terms of those sorts of developments. The sort of offset we are looking at will depend on what the tenure of the land is.

Senator BOB BROWN: On the offsets again, seeing we are back to that, can you tell me of an offset where an area that did not previously have koalas has been established and which became a habitat for koalas?

Ms Leverington: I cannot give you an exact position at the moment. Certainly in south-east Queensland we are revegetating areas, but it is still fairly new work that is being done. But, in terms of well-established revegetation in that context, I am not able to give you specific examples.

Senator BOB BROWN: So the offset program, as far as you know, has not led to a successful re-establishment of koala habitat in exchange for the destruction of koala habitat?

Ms Leverington: My sense of it is that, at this point in time, it is still fairly new. It is still a fairly new policy. We will be looking to monitor these changes over the next few years in terms of the success of it.

Mr White: Could I make a comment.

Senator BOB BROWN: Certainly.

Mr White: I agree with the comments that have just been made in relation to it probably being too early to be able to talk about success or other stories, but I can quote to you some examples that I am currently involved in, one of which involves a quarry application where there could be a loss of approximately 10 hectares of habitat. The proponent is talking about purchasing a cleared pineapple farm and reinstating 100 hectares of habitat as part of a rehabilitation strategy and putting in place a program where the loss of the 10 hectares would not occur until

such time as a point in the sequencing of the regeneration of the second block of land, which is 10 to one in terms of the amount of habitat that can be created.

Senator BOB BROWN: What point would that be? You said a particular point. What is the particular point?

Mr White: It would have to be agreed upon in terms of the viability of the habitat that has been created on the block that has been rehabilitated.

Senator BOB BROWN: I am interested in this. Would it be agreed upon by somebody outside or by koalas actually having been shown to be viable on that land and presumably regenerating there?

Mr White: The particular parcel of land is centrally located within core koala habitat and is currently being used as a 100 hectare pineapple farm, which obviously is not available for koalas while it is in its current pineapple farm state. If it were to be revegetated as part of a program, being approximate and adjacent to the significant koala corridors and core koala habitat areas, it would be reasonable to assume that it would be friendly towards koala movement and could be moved onto as part of a sequenced transition management planning process.

Senator BOB BROWN: I would just point out though that that is an assumption based on an absence of any demonstrable example of that happening. Isn't that the case?

Mr White: I think it would be the case, but, knowing this particular area in the way I do, I would see no reason, if it were rehabilitated to the sorts of standards that we were talking about, why we would not then be having a net gain of 90 hectares, over perhaps a 10- or 15-year period, of prime koala habitat in a prime, fertile soil area for koala feed trees.

Senator CAMERON: We have had submissions from the Urban Development Institute and today from the Property Council. The Urban Development Institute in their submissions in Brisbane actually spoke about the need for fair and appropriate compensation if any ownership of land was disturbed by legislation protecting koalas. They have raised an issue about what I think is a Queensland-only law called constructive resumption—this is Mr Stewart. What is constructive resumption?

Ms Leverington: I am sorry, I am not able to answer that question at this point.

Mr Oestreich: No, that is outside our portfolio, I believe. Gary, do you have anything to add on that?

Mr White: No, I do not, other than to assume that what he means by constructive resumption is simply the resumption process that is available to you if you deny certain development rights. I have not heard the words 'constructive resumption' used. It is obviously something that we would be able to take notice and supply a response to.

Senator CAMERON: Yes, could you do that please. This is the Urban Development Institute—Mr Stewart. You have argued that compulsory acquisition is available. He was quite aggressive in his view that there would have to be financial recompense to any landowner if there is a koala population there and we need to save it. He described what he called 'constructive resumption'. If you could get someone from, say, the Attorney-General's office to give us an idea of whether there is a difference in the law in Queensland on property rights and how they relate with environmental law, I would be keen to see that. Also this morning we heard from the Property Council. Have you read their written submission?

Ms Leverington: Yes.

Mr Oestreich: Yes.

Senator CAMERON: What do they mean when they say, 'for example, in Queensland the initial response to the preservation of the koala and its habitat was poorly informed and led to onerous requirements being placed on appropriately zoned land and approved developments. Following extensive submissions from the industry the Queensland government has now adopted a more considered response to the issue'. Can you just tell me what it was that the Queensland government did that was, in the view of the Property Council, poorly informed?

CHAIR: Senator, with respect, I am not sure that these witnesses can comment on the view of the Property Council and what motivated them.

Senator CAMERON: Of course they can.

CHAIR: They can comment on the comments themselves. Why don't you ask them to do that.

Senator BOB BROWN: They can comment on another witness's evidence, Chair.

Senator CAMERON: I specifically asked whether the witness had read the submission. This is a part of the submission that was directly to the credibility, really, of the Queensland government.

CHAIR: Indeed, so why don't you simply ask the witnesses to respond to the comments as opposed to working out why they might have said what they said, which is entirely different?

Senator CAMERON: No, it is not different. What I am saying is: why would they say that? What issues did they raise with the government?

CHAIR: That is a different question, but you are entirely able to answer that.

Senator CAMERON: Thanks for all of this help.

CHAIR: No worries, Senator.

Mr Oestreich: The Queensland government, as part of its development of the two new state planning instruments, undertook three rounds of public consultation and an initial notification period, which was to advise that the Queensland government intended to make these new planning instruments. The second stage was public consultation on an exposure draft of a set of instruments. Then the third stage was the final versions that were delivered following the extensive periods of public consultation. I could not go to the Property Council's thinking in terms of why they thought it was poorly considered. We did change our approach, however, between consultation period 2 and the final version that was ultimately delivered. That was based on feedback from a range of stakeholders, including local governments, who were going to be involved in the delivery of the state planning instruments, as well as conservation groups and others. All of the comments that were given to us were considered. We did put a particular emphasis on consultation with local government in particular, given that it was going to be the level of government that was going to be shouldering the burden of our instruments, particularly around the issue of workability—that is, can this feasibly be delivered, does it deliver the outcomes that the state is setting out to get and does it achieve the outcomes that we wanted.

The most tangible or most obvious change that occurred between that exposure period and the final period was in the state planning policy. The original state planning policy was very prescriptive in terms of what the state expected to see in local planning instruments, down to the areas that must be conserved, the areas where development is permitted, what must go on in those places and how you will regulate it. The feedback from local government certainly was that that was not the most effective method of delivering that outcome. The best approach to delivering the outcome that we wanted was to set the outcomes that we were looking for, move to an outcomes based instrument rather than a process based instrument and then direct them to do the strategic planning that is required to deliver those outcomes. And that is ultimately where we went.

Senator CAMERON: So it was not the extensive submissions from the Property Council that made the changes; it was your consultations with council—is that correct?

Mr Oestreich: I think that is a fair representation. All stakeholders were considered in terms of the delivery of the final instruments, but, of course, particular consultation was undertaken with local governments to work with them to identify the most effective way of delivering the outcomes that we sought. There were a range of changes that were made based on a range of submissions, but certainly local government was influential in our final—

Senator CAMERON: How influential was the Property Council? They seem to think they were very influential.

Mr Oestreich: It is often a view expressed by stakeholders. I think the Property Council was one of many stakeholders. In our view, that is the way we regarded them—they were one of many.

Senator CAMERON: On the issue of the koalas, they said they made extensive submissions to you on your legislation to protect koalas. Can you give us some information about what their submissions were and what your responses to their submissions were?

Mr Oestreich: I do not recall the details of their submissions, but we certainly have all of that information available in the Queensland government's consultation report.

Senator CAMERON: So I should go and read the report, should I?

Mr Oestreich: I can provide that for the committee, along with any other information that would go to informing your question.

Senator CAMERON: You will provide the report or you will provide the answer to my question?

Mr Oestreich: I think the report answers your question, Senator.

Senator CAMERON: Yes, but you know the report. I am happy to have the report. How big is the report?

Mr Oestreich: The report itself is quite large, but it has summary sections.

Senator CAMERON: What is quite large—100, 600 or 700?

Mr Oestreich: There were around 100 submissions as part of this process and those submissions were summarised.

Senator CAMERON: I am not a minister, but it feels like *Yes, Minister* here. We will provide you with acres of paper and you find your way through it. I do not want to do that. We do not have the time for that. You know what submissions the Property Council made. You would know what responses the government made. If you want to send the documentation down, that is okay. But are you in a position to provide details of the specific requests that the Property Council made or the demands that they made to government and government's response on that?

Mr Oestreich: Yes, absolutely, I can provide that information. I cannot recall that information off the top of my head, but I am happy to provide that information to you.

Senator CAMERON: Thank you.

Mr Oestreich: You are welcome.

Mr White: Can I make a comment that might assist a bit with regard to that discussion?

Senator CAMERON: I was over it, but if you want to come back at it I am happy to hear from you.

Mr White: I just wanted to raise the point in the context of the brief comment that I made at the beginning of my presentation, which was the focus of a planning approach that articulates the desired outcomes that are sought in an area and then seeks to have the outcomes achieved by processes further downstream. So, for example, when a local authority prepares its planning instruments it takes account of the outcomes that were sought as part of the process. Equally, a development proponent has to take account of a more detailed, finer-grained analysis of what is required around those outcomes as opposed to probably what we started with in the process, because we were responding to significant community concerns about loss of koala habitat, where you simply try to define in what I call a six-inch paintbrush analysis areas that should be developed and areas that should not be developed. Nine times out of 10, that is a very difficult process to do. It acknowledges the fact that, if you change your process to be very much one of outcomes, that finer-grained analysis can be done in better and more detail during the preparation of subsequent planning instruments. You create the context around which those considerations must be embodied in the planning process, which is the process that we moved towards as we developed these policies and processes.

Senator CAMERON: You must have been a *Yes, Minister* fan, I think.

Mr White: No, I was not.

CHAIR: You can take that as a backhanded compliment, Mr White, and leave it at that, I think.

Senator CAMERON: I will have a look at the Hansard on that one.

Senator BOB BROWN: Can you tell the committee if anybody has ever been prosecuted for either running over or having their dogs kill koalas?

Ms Leverington: I do not believe so.

Mr Oestreich: I do not believe so, certainly not under the Nature Conservation Act, which I can speak to. That is administered by our department. I guess the best way to consider it is that the nature conservation act provides protection for wildlife—that is, the killing or harming of wildlife is not permitted. However, it does acknowledge that wildlife is incidentally harmed by things that occur or by other lawful activities. I would find it difficult, unless an animal was directed to the taking of a koala, as in someone set their dog on a koala, I would find it difficult to imagine the circumstance where the nature conservation act would provide an outcome that is a criminal one.

CHAIR: Does the prevention of cruelty to animals legislation only apply to domestic animals or would it apply in respect of koalas? It would not be in your jurisdiction either.

Mr Oestreich: No, that is correct. The Queensland Animal Care and Protection Act is administered by Biosecurity Queensland, which, amongst other things, is Queensland's animal welfare agency.

Senator BOB BROWN: Is there a difference between a koala dying from one of those acts and a koala dying from having its habitat removed?

Mr Oestreich: It is a question of scale in the sense that, as a conservation agency, what we are primarily concerned about is what is the effect on the survival of the species rather than the welfare of the individual animal. We have in place requirements that seek to protect individual koalas from a range of activities. We have requirements for sequential clearing and in certain parts of south-east Queensland we have requirements for spotter catchers to be present during clearing activities. We have also created a model local law that is a pre-prepared law that local governments can directly incorporate into their suite of local laws. That provides them with a head of power and the strength to regulate the keeping of dogs for the benefit of koala conservation. I can

highlight one council in particular in south-east Queensland that has quite strong dog control laws—that is Redland City Council. It effectively implements those for the benefit of the koalas in the Redland City Council area.

Senator BOB BROWN: The point I was making, and correct me if I am wrong—

CHAIR: Very briefly, Senator.

Senator BOB BROWN: is that removal of habitat is effectively killing koalas, isn't it?

Mr Oestreich: It does—it may have that impact. However, while there is some mortality from clearing activities, the impact is more indirect. I suppose that still goes to your point—

Senator BOB BROWN: It is permanent, though.

Mr Oestreich: It is, unless it is replaced. In the sense that koala habitat is necessary for koalas to exist, ergo if you do not have koala habitat then you do not have koalas.

CHAIR: thank you.

HANSARD, Mr Allan, Transitional Chief Executive, Australian Forest Products Association (formerly National Association of Forest Industries)

STEPHENS, Mr Mick, Manager, Strategic Policy, Australian Forest Products Association (formerly National Association of Forest Industries)

[14:44]

CHAIR: Welcome. We have your organisation's submission. Is there anything you need to fix in it?

Mr Hansard: Perhaps the only thing we would like to mention is that since we submitted the submission we are now the Australian Forest Products Association.

CHAIR: That is material. Thank you. Do you wish to make a brief opening statement?

Mr Hansard: We do. On behalf of the Australian Forest Products Association, we welcome the opportunity to address the Senate Standing Committee on Environment and Communications inquiry into the status, health and sustainability of Australia's koala population. AFPA was formed by the recent merger of the National Association of Forest Industries—NAFI—and the Australian Plantation Products and Paper Industry Council, known as A3P. The associations look forward to providing a single national voice on behalf of the Australian forest wood and paper products industry.

Most Australians recognise the iconic status of the koala and its importance to the ecological and social fabric of the country. In this regard, we support the efforts to improve the conservation status of koalas, including the National Koala Conservation Strategy, which identifies a range of threats to koalas such as habitat loss, disease, vehicle collisions and predation by dogs. Accordingly, AFPA supports the development and implementation of the national strategy for koala conservation, particularly with respect to landscape level planning and co-ordination of federal, state and local governments. AFPA also notes that habitat loss and fragmentation through land clearing is one of the major threats to koala populations and is often confused with sustainable forest management and harvesting. On renewable harvest and regeneration of forest for timber and other more multiple values, the regulatory regime for flora and fauna protection in natural forest regions is well documented, reflecting the extensive network of formal conservation reserves and controls on harvesting practices in multiple use forestry areas managed for a range of values including wood production. Areas subject to periodic timber harvesting in natural forests are subject to a broad suite of planning and regulatory controls, including forest zoning and legislated codes of practice that require such things as exclusion zones, prescribed repairing and buffers, preharvest flora and fauna surveys and retention of existing and future habitat trees in harvest areas. In addition, Australia has two million hectares of plantation forest used to produce a range of pulpwood and solid wood products. Given the presence of eucalypt species in many commercial plantings, koalas can and do access food and shelter in some of these areas through landscape connectivity and mobility from adjacent forests. The occurrence of koalas in some plantations reflects the multifunctionality of forests in the landscape. Planted forests are relatively complex biological systems compared with many other primary industry activities such as annual cropping, for example. The plantation forest industry has been developing voluntary guidelines and protocols to both enhance forest habitat and improve the welfare of koalas in plantations, particularly with regard to minimising disruptions to koalas during harvesting operations. However, it is important to note that such voluntary measures for koala protection in commercial plantations are not usually compensated in the market place and hence provide a public benefit at no cost to the community or the taxpayer.

The forest industry can play a complementary role in the national strategy to enhance koala conservation through the existing regulatory framework for sustainable forest management and an increasing trend towards voluntary efforts on privately owned forest land and commercial forestry operations. In this respect, AFPA recently commissioned Central Queensland University to review the key threatening processes on koala populations and the relative effect of sustainable forest management on the perseverance of koalas to help industry and policymakers better understand the key implications. In summary, the review found that the key threats to koala populations are largely non-forestry related—for example, clearing for urban development. Koalas can and do persist in natural forests disturbed by logging based on published scientific studies across a number of different sites. The commercial management of timber production forests provide a range of supportive activities not always possible in national parks and reserves, such as ongoing control of pests and fire

management. Through their evolving and proactive management, forestry strategies to reduce the impact on koalas could potentially have a positive effect on the long-term perseverance of koalas within the forest estates. This report is being finalised and we would like to provide a copy to the committee when that is done. We think that should be in the near future.

In conclusion, AFPA is committed to working constructively with the Australian government, the committee and other relevant stakeholders with regard to improving the health and status of Australia's koala population. My colleague and I would be happy to take any questions now and elaborate on any of the issues that we have raised.

Senator BOB BROWN: Thank you. I have asked other witnesses this question. You may have heard me ask them. What is the price of a koala?

Mr Hansard: That is a very good question.

Senator BOB BROWN: It is a good one—that is why I like asking it.

Mr Stephens: I guess that, as we stated at the outset, the koala is part of the social and ecological fabric of Australia. It is our national icon. So it is pretty hard to put a price on it.

Senator BOB BROWN: If pressed, what price would you put on a koala?

Mr Hansard: Senator, I would rather not put a price on a koala. I would rather make sure that activities are taken that minimise any impact on a koala so that we do not have to price them.

Senator BOB BROWN: We had a submission from our last presenters saying that a 1996 study had shown that koalas may be worth \$1.1 billion to the economy and 9,000 jobs. Being in the business of koala habitat and affecting koala habitat, have you done any assessment that might help corroborate or otherwise dispute those figures?

Mr Hansard: The only thing I would say is that, as my colleague said and as I said in my opening remarks, the koala is an iconic species for Australia. It does attract interest from not only Australians but also overseas. I am not necessarily surprised that a value like that was put on koalas in relation to the value through tourism and other activities.

Senator BOB BROWN: Have logging activities by any of your members ever killed a koala?

Mr Hansard: I am sure that it has happened in the past. Things happen in the forest, as you are aware. It is possible that it has.

Senator BOB BROWN: Has that ever been reported to your organisation?

Mr Hansard: That koalas have been killed in the past?

Senator BOB BROWN: In logging activities.

Mr Hansard: How long do you put the past as?

Senator BOB BROWN: I do not put any limit. Your organisation has been—

Mr Hansard: Not personally, not to me while I have been CEO of my organisation, no.

Senator BOB BROWN: Can you tell the committee why it is that we should think that the removal of key koala habitat in the form of mature trees is not detrimental to koalas?

Mr Stephens: In answer to that question, you need to appreciate the points that we are making about the nature of forest management and the protocols and policies that are put in place. When you are talking about the removal of forest habitat, certainly there are issues around the permanent removal of habitat. The protocols in place with the codes of practice put in exclusion zones around prime habitat areas. Within harvested areas, there are a whole range of codes around things like the riparian buffers and habitat trees—things that are put in place to ensure provision of habitat as part of those operations. The whole intention of those protocols is to minimise the impact on koalas.

Senator BOB BROWN: What does 'minimise' mean?

Mr Stephens: Basically, the policy would be to promote zero impact on koala populations. That is the ultimate goal.

Senator BOB BROWN: Has that been achieved?

Mr Stephens: I think in terms of the study that CQU has done looking at logging impacts, the studies they reviewed showed that there was no short- to medium-term impact on koala populations. But I think we are advocating the role for further research.

Senator BOB BROWN: Are you saying that, in the studies you have done, logging has had zero on impact on koalas and koala habitat?

Mr Stephens: In the studies that I referred to there was no statistical difference between logged areas and unlogged areas and there was no discernible change in the population status.

Senator BOB BROWN: We have just had a submission from an obviously concerned witness from Coffs Harbour City Council saying that 2,000 hectares of prime koala habitat totalling 19,000 hectares is earmarked for logging. How is that going to help koalas?

Mr Hansard: Did they say why it was earmarked for logging? Two thousand hectares is a fair area. Under the guidelines that we work under, which you would properly be aware of, 2,000 hectares would not be logged at one time; it would be logged over a series of years to allow for small patches to be harvested and replanted in the mosaic ecosystem that we like to see maintained.

Senator BOB BROWN: Hang on—a mosaic ecosystem? That sounds fantastic. What is that?

Mr Hansard: That is where you have a range of different age types through your forest—

Senator BOB BROWN: Like we have people in this room?

Mr Hansard: Yes, it is a natural concept, as you are aware.

Senator BOB BROWN: So you are telling me that mosaic eco logging is a natural process or a natural system?

Mr Stephens: Logging activities in the forest are an anthropogenic disturbance, as you are aware. However, ecological principles are applied to that management.

Senator BOB BROWN: It is not natural, though, is it?

Mr Hansard: Is man natural, Senator? It is an activity undertaken by man.

Senator BOB BROWN: It is not natural, is it.

Mr Hansard: What is your definition of natural?

Senator BOB BROWN: I am asking you.

Mr Hansard: We live in a situation where we do have modified landscapes now.

Senator BOB BROWN: Modified mosaic eco landscapes?

Mr Hansard: Could you say the same about other activities, say, in national parks? They are not necessarily natural either.

Senator BOB BROWN: That is true.

Mr Hansard: I just do not understand the question.

Senator BOB BROWN: You do not understand my question as to what is natural?

Mr Hansard: Define natural for me and then we can—

Senator BOB BROWN: Let me put it this way. Nature has managed the forests of Australia for millions of years and there were millions of koalas before the anthropogenic disturbance of the modern era occurred. We are having evidence before this committee that the population is now somewhere south—that is the new political term here—of 100,000. That shows that anthropogenic disturbance has been very destructive of koala populations. Are you putting it to the committee that logging of koala habitat does not fall into that destructive component of anthropogenic activity?

Mr Hansard: what we are saying is that logging activities done the correct way can have minimal impact on koala populations. In fact, the research done by the Central Queensland University alludes to the fact that, done correctly, it can actually enhance koala habitat.

Senator BOB BROWN: So how much minimal impact do you have before we have extinction?

Mr Hansard: Our activities are not removing habitat permanently.

Senator BOB BROWN: So when you take a habitat tree out that has been a food source for koalas which, to use your term, access and exist on it you are not altering the viability of koalas in that forest?

Mr Stephens: You have active management as a component of forestry activities. Even in a natural, unmanaged state you will have—

Senator BOB BROWN: Does management involve taking a bulldozer or a chainsaw and removing by cutting down, debranching, putting on a log truck and removing a koala habitat tree?

Mr Stephens: Habitat trees are identified as part of the management prescriptions and they are set aside.

Senator BOB BROWN: So any tree that koalas—

CHAIR: Senator Brown, I have let you go but I think you are cutting off the witnesses prematurely in several of their answers.

Senator BOB BROWN: I am just getting to the point, Chair, and I do not need to be cut across right when I am getting to the point. Mr Stephens, are you telling the committee that habitat trees for koalas are not logged?

Mr Stephens: I am saying that as an industry that relies on logs provided through public state forests, there are management codes and practices in place to minimise impacts on koalas which include prescriptions for habitat trees. Whether a single individual tree that could provide habitat is removed is probably a matter that you should discuss with the state forest agencies.

Senator BOB BROWN: Would you dispute with me that logging in New South Wales removes thousands of trees on which koalas depend every year?

Mr Hansard: Could I also say that—

Senator BOB BROWN: No, hang on. Would you dispute that statement?

Mr Stephens: Can you verify that?

Senator BOB BROWN: You are the expert. Would you dispute that statement?

Mr Hansard: You are asking me to answer one part of a broader equation but you will not let me say that those areas are harvested and they are replanted. That habitat is restored.

Senator BOB BROWN: How long does it take to restore it, Mr Hansard?

Mr Hansard: It varies, Senator. The scientific evidence seems to point to the fact that koalas like young trees to feed on. That is—

CHAIR: Once again, I remind the audience that witnesses have come here drawing on their own expertise and experiences. They are entitled to express their view. That is a large part of the purpose of today. So please respect those expressions of view.

Mr Hansard: Thank you, Madam Chair.

Senator BOB BROWN: Once again I remind the audience that that is an extraordinary intervention from the chair.

CHAIR: I disagree, Senator Brown, for the reasons for which I made the observation.

Senator BOB BROWN: It is called shepherding witnesses, Chair. The question I leave you with, then—

CHAIR: Sorry, Senator Brown—what I am attempting to do is prevent any undue and, I am sure, unintended interference by well-intentioned members of the public with the testimony being given.

Senator BOB BROWN: That has been done, so you did not need to attempt to, Chair.

CHAIR: In your view.

Senator BOB BROWN: And it is a very good view, Chair. I will leave you with this, Mr Hansard, because the chair is going to stop me questioning you right now. Would you provide to the committee your scientific evidence that young trees are the best habitat for koalas.

Mr Hansard: We will provide the scientific evidence that has been provided to us on that, Senator. We have no problem with that. I am happy to take up this discussion with you at a later.

Senator BOB BROWN: The committee is the place for it, Mr Hansard.

Mr Hansard: Sure.

Senator CAMERON: I am interested in this removal of the habitat. I think we have had evidence that a koala lives about 10 years if it has a long life. If you remove its habitat and you replant, is that 10-year period sufficient? Would a generation of koalas be denied their habitat?

Mr Hansard: The thing to also remember is that koalas, we understand, do not necessarily sit in one spot in the forest. They move around. Madam Chair, I am getting a lot of interference from the back there.

Senator CAMERON: Mr Hansard, you—

CHAIR: Mr Hansard, I have stated the position so I think you can carry on irrespective of that. If it becomes otherwise I am sure that there are measures that the committee can take but I am sure we will not have to go there.

Mr Hansard: I am just amused by it. It is just a bit distracting, that is all. They do move through the forest.

Senator BOB BROWN: So are chainsaws.

CHAIR: Senator Brown, you have had your opportunity.

Mr Hansard: What we aim to do is construct our harvesting activities to take that into account. The areas we harvest are sufficiently small that it does not remove all the habitat. As my colleague said, we do leave trees where it has been identified that koalas are inhabiting. Further than that, we allow corridors between those habitat trees and the existing forest. The way it is planned is to, as we have said, minimise the impact on the koala population and also minimise the impact on long-term habitat by doing so.

Mr Stephens: I think it is important to acknowledge the landscape perspective here in terms of forest management. We are focusing on patch-level and harvest impacts—the potential removal of some future habitat trees or habitat trees. But the key here in the strategies is around minimising the risks of population decline in those areas. The adaptive management strategies are being put in place for that component of harvest are to minimise the risk at that regional level. I think it would be useful—we can provide information about the nature of those management strategies and their relevance at the landscape level.

Senator BOB BROWN: Do you have any—

CHAIR: Senator Cameron.

Senator BOB BROWN: I am happy to sit back on this issue.

CHAIR: I note that.

Senator BOB BROWN: Can you just assure the committee that there is no clear-fell logging in any koala habitat area in south-east Australia.

Mr Stephens: Most harvesting in Australia now, because of the codes and prescriptions, is probably better described as modified clear felling or one of a range of selective logging regimes. It is quite an emotive term that we hear quite a lot bandied about with the industry—

Senator BOB BROWN: Would you like to take that question on notice?

Mr Stephens: We can take that on notice.

Senator BOB BROWN: Thank you.

Senator CAMERON: We had evidence this morning from Mr Chris Allen that the remaining South Coast koala population in the heart of the Mumbulla State Forest south of Bermagui could be endangered by logging. The logging is to be carried out on behalf of South East Fibre Exports and the operator of the Eden chip mill. They are members of your organisation. I think they are 100 per cent Japanese owned. Evidence by Mr Allen was that the koala population in Mumbulla could be very important in repopulating empty habitat in surrounding forests, including Biamanga National Park, so long as that Mumbulla population is left undisturbed. We also had other expert scientific evidence that these 50-odd koalas that are left could be the remnants of the Victorian koala population. Do you believe that logging koala habitat in Mumbulla State Forest would be beneficial to the koala population?

Mr Stephens: We cannot comment on that specific situation. We would suggest that with the management codes and prescriptions that are in place that would be quite surprising, but that is probably a matter on which you could seek further information from the planning agencies and the state forest agency responsible.

Senator CAMERON: But it is your members who are going to cut the trees down.

Mr Hansard: That is subject to the codes that are set for them by the state forest agencies.

Senator CAMERON: So it is all care and no responsibility. It is a bit like the Nike defence: 'We can exploit workers, rip them off, treat them badly and produce great profits; so as long as that legislation is there in Thailand or wherever we can do that'. It seems to me that you are putting the Nike defence up here—that you are allowed to do it so you are going to do it.

Mr Stephens: I think that is an unfair criticism of and statement on the state of our industry.

Senator CAMERON: I am asking you. Can you guarantee that these 50-odd koalas who are scientifically important—are the remnants in the Eden area of the koala population—will not become extinct through your operations?

Mr Hansard: We would try to minimise that occurring. That is exactly what we want to do. We do not want to see this population extinct.

Senator CAMERON: What does 'minimising that occurring mean'? It does not mean 'Yes, we will save them'.

Mr Hansard: We would want to look at where those 50 are, see what the logging pattern is and see whether there are ways, as we do, to minimise the impact on that population. However, the thing we should remember here is that we do not take things in isolation. You mentioned the 50 in Mumbulla State Forest. How does that

relate to the populations in the surrounding national parks? Is it possible for those koalas to migrate into the national park system? If so, we could—

Senator CAMERON: Is it your submission that that is what can happen? I am not here to answer your questions. If that is your submission, put it on the record.

Mr Hansard: No. What I am saying is that there are a number of ways we can address the question you asked so that we minimise the impact on the population.

Senator BOB BROWN: Isn't minimising the impact not logging?

Mr Stephens: Under the code—we talked about those codes that are in place—there are logging pre-survey processes. If koalas are discovered in those areas there are exclusion zones. That was our point at the start of our opening statement. As a forest industry, we are committed to promoting the persistence and long-term conservation of koalas. We acknowledge that there is a regulatory regime in place. In any pre-logging activity, those surveys are undertaken and there are exclusion zones. A lot of assertions are made about prime habitat across the landscape. It is a bit like when you mentioned the Nike defence. What is the scientific basis for those claims? In terms of the protocols that are in place, those surveys are undertaken and they are there to identify those habitat areas. I am confused by the question.

Senator CAMERON: I do not have a lot of time and I have a couple more questions I need to go through, and you made that submission earlier. The Eden regional forest agreement has been in place since 1999. How does it take into account changed circumstances or new knowledge about koala populations? Or is it set in stone in the way it deals with changed environmental conditions or the state of scientific knowledge? You keep coming back and saying 'We've got these protocols, we've got these agreements, that's what we deal with'. When was it last looked at? Given the evidence that we have had about those koalas in Mumbulla State Forest—have you looked at that in the context of this agreement?

Mr Stephens: Those management codes are being updated as part of adaptive management. That is the basis of an environmental management system. As new information becomes available, appropriate responses and actions are taken. In terms of the—

Senator CAMERON: Just on that point—

CHAIR: Senator Cameron—

Senator CAMERON: Wait a minute, Chair. Can you provide us with details of what updates have taken place, chronological order, since 1999? You say that they are being changed and these things that I have raised are being taken into account. Give us a timeline between 1999 and now about what changes have been put in place and what effects that has had on the koala population.

CHAIR: Do you mean letter by letter, Senator? Do you want to clarify what you mean by the question?

Senator CAMERON: The question is clear. Mr Stephens said that it was being continually updated; changes were being made. I am simply asking him to tell us what those changes are and what updates have taken place, and to do that chronologically.

Mr Stephens: I was describing the management system that is in place for those codes. That system is administered by the relevant state forest agency, so that would be something that the state forest agency could provide if you so requested it.

Senator CAMERON: This really is quite bizarre. You say 'Go to agency; we just cut the place down. We might either help or detract from the health of koalas. Don't ask us this question; go to the agency'. But you are the guys who are cutting the trees down.

Mr Stephens: On your specific request, I am saying that the custodian of that information would be that agency.

Senator CAMERON: So your business plan, your records as an organisation, do not keep any overview of what is happening to your obligations? I do not believe that.

Mr Stephens: In terms of the management of operations and industry, the fact we have not pointed out is that 90 per cent of the industry operates under internationally recognised sustainable forest management standards. Whether that is growing, harvesting of those operations—

Senator CAMERON: Mr Stephens, that is not what I am asking you. I am simply asking whether you do or do not have a record in a chronological order of the changes that have been made, and the analysis that has been done about what changes are required, to the forest agreement since 1999.

Mr Stephens: So you are talking about the broad forest agreements?

Senator CAMERON: Regional forest agreements.

Mr Stephens: I thought we were talking about the individual codes of practice in the Eden forest area.

Senator CAMERON: No—the Eden Regional Forest Agreement.

Mr Stephens: The association supports the renewal of regional forest agreements and the review of those agreements going forward.

Senator CAMERON: That is not what I am asking you. Do you have the information or not? It is either yes or no.

CHAIR: I think Mr Hansard is about to indicate to you what he can provide.

Mr Hansard: We can provide the reviews of the RFAs for the Eden region.

Senator CAMERON: That is great.

Mr Hansard: Okay.

Senator CAMERON: That is great. Why didn't you just say that?

CHAIR: I am not sure that you asked that question, Senator. It was lost on me.

Mr Hansard: We do not have detailed information down to a coupe level as to what happens there but we do have the broader level. If we did that we would be smothered with a lot of paper. Sorry Senator, but we would.

Senator CAMERON: I am you can take that on board. What effect would the operation of the EPBC Act have on a forestry operation in known koala habitat such as the Mumbulla State Forest if the koala was listed as threatened? What are the practical implications?

Mr Hansard: Listed as threatened.

Senator CAMERON: Yes.

Mr Hansard: What is it listed as at the moment?

Senator CAMERON: It is not.

Senator BOB BROWN: You did not know that?

Mr Hansard: I did know that; I just wanted to know whether you knew that.

Senator BOB BROWN: Come on.

Senator CAMERON: Mr Hansard, no wonder there is groaning on behind you.

Mr Hansard: The reason why I asked that is—

Senator CAMERON: Groans will be coming from here as well.

Mr Hansard: No, it is a fair question. You want it to be listed as threatened. There are other—

Senator BOB BROWN: Just a moment. This committee is moving towards a deliberation. Do not pre-empt it.

Mr Hansard: No, sure. You were talking about a classification of it. My point is that it is not classified at the moment. How you would manage for it would depend on that classification. Do you understand that?

Senator BOB BROWN: No, well—

Senator CAMERON: I am saying to you that there is a real—

Senator BOB BROWN: I will just ask a question.

CHAIR: Senator Brown, this is Senator Cameron's call and I have questions as well. You have both had the lion's share.

Senator BOB BROWN: Let me ask this simple question. Isn't it true—we have had this evidence earlier today—that the regional forest agreements are exempt from the EPBC legislation?

Mr Hansard: They are exempt in the sense that they already cover the requirements of the EPBC.

Senator BOB BROWN: They are exempt under section 39 of that act.

Mr Hansard: But that is because they cover requirements of the EPBC.

Senator BOB BROWN: That is the concept; it is not the actuality.

Senator CAMERON: We have to make some determination about what recommendations we make to government in relation to the koalas. I would be interested to know what the implications would be if there were a reclassification of the koala to threatened. What are the implications for your industry? That is all I am asking.

Mr Stephens: It puts the responsibility on the Commonwealth to ensure that it meets its obligations under the act. That would normally require recovery plans or conservation management plans to be put in place. The current

protocols and management regimes in place would probably be reviewed and the conservation plans would take those into account. One implication would be that it may increase costs of production around any additional requirements that are put on the system.

Senator CAMERON: Do any of your members factor into their business plans that there could be change to the listing of koalas, or do they just think that will never happen?

Mr Hansard: There are other species in the forests that are listed as endangered under EPBC. We deal with those as well. It is about how you set your management prescriptions. Until we know what the classification of the koala is, it would be difficult to know what the implications would be. But we would handle it as we have other species.

Senator BOB BROWN: Like the swift parrot?

CHAIR: Senator Brown.

Mr Hansard: Wedge-tailed eagle?

Senator BOB BROWN: I am sorry?

CHAIR: Mr Hansard, please answer Senator Cameron's question.

Mr Hansard: That is my answer. If there is a determination to classify the koala as endangered or whatever, as long as it is backed by good, sound scientific evidence, we would support it. And as an industry we would support appropriate management to minimise the impact on them.

Senator CAMERON: Can you provide me on notice details of what practical steps you have taken for endangered or threatened species in the forestry industry so I can get some idea of what you would be doing with koalas if it happened?

Mr Hansard: Yes, we can do that.

Senator CAMERON: Thanks.

CHAIR: If the koala were to be a declared species under the environmental protection act and that then triggered the protections that are available under the act, what are the potential implications of those for your industry? I will go through them in turn. And what are the steps that your industry could take to address those outcomes? We have traversed this in general terms but I want to give you the opportunity to be more specific. If you want to take any of these on notice, because we only have about three minutes left, please do so. First, the development of conservation advice and recovery plans. What could be the implications of those in respect of koalas for your industry, and what steps might your industry take? If you want to take that on notice, that is fine.

Mr Hansard: Some of these might take a while to answer, that is all.

CHAIR: I appreciate that. I am basically these from the act. Secondly there is the potential that a register of critical habitat for the koala would be developed. Again, what would be the implications for your industry and what steps would you take? There could also be key threatening processes, which could well include some of your industry's activities. What would be the implications, potentially, for your industry and what steps could you take. Finally, threat abatement plans could be developed and could, again, have implications for your industry. So, again, what do you see as the implications and what could your industry do about those. My second area of questioning is far shorter. Mr Hansard, in one of your earlier attempts to answer—of which you had many—Senator Brown's questions, I think you indicated that it was recognised that logging can in some cases enhance koala's habitat. Can you expand on that?

Mr Hansard: It comes back to the issue that I was talking about in relation to a mosaic of forest types. Koalas obviously like variability, as do other species, in relation to age of forests. What forestry can do through its practices is create a situation where you have a varied-age forest and therefore koalas can appropriately source younger trees with younger leaves—which we hear from the scientists that they prefer—and also have older trees in the forest to have as their habitat shelters and things like that. So we are providing a more diverse range of habitat than a single-age forest would.

Mr Stephens: There is another component. When we talk about logging we are really talking about forestry management that goes along with logging. That comes back to that landscape level. Things like weeds, fire management and other aspects of management are part of that industry and can provide some real resources and some finances to put into conservation efforts in that part of the landscape.

CHAIR: Thank you, Mr Stephens; you have taken me to my final question, which is on the area of responsible management of public land and in particular sensible management of fuel loads and fire risks, which include risks writ large to the koala. I note what you say in your submission about the different points of view that exist on controlled burning, particularly in natural forests. You may care to expand very quickly on that. I do not

think you were in the room when we heard from the Conservation Council, ACT region—Mr Hibberd, who brought some colour to us. What would be your view if the conservation council got its wish on the recommendation in its submission 'that no hazard reduction or post-logging burning should take place in or adjacent to known koala habitat except inasmuch as—

Senator CAMERON: Chair, can I draw your attention to the time?

CHAIR: Yes, we started five minutes late with these witnesses.

Senator CAMERON: That is because you were seven minutes late coming back.

CHAIR: We ran over five minutes. I am continuing to ask the questions.

Senator CAMERON: I would like the department on soon.

CHAIR: We will deal with that in minute, Senator Cameron. You are lengthening my question—go right ahead. I will start again. The recommendation is 'that no hazard reduction or post-logging burning should take place in or adjacent to known koala habitat except inasmuch as may be designed specifically for the protection and conservation of koalas and other threatened species'. What would be the consequence for your industry if that were to be implemented.

Mr Stephens: We made some similar comments in the recent inquiry into recent bushfires in Australia in relation to some real inadequacies in fuel reduction management across the forest estate. We highlighted a series of about six previous state and federal inquiries which have all identified impediments to fuel reduction burning and some of the consequences for forest management and biodiversity. We would think that that kind of rigid policy could be potentially disastrous. If there is not an adequate fuel reduction policy in place, you increase the risk of high-intensity, large-scale fires when you have extreme weather conditions. I can table a paper recently published in the *Farm Policy Journal* where we identify some of these issues. I am more than happy to table that in response to your questions.

CHAIR: Thank you. And presumably that risk would be to far more than the koala.

Mr Hansard: Yes. One added point to that is that it is imperative to have consistency across land tenures. We can look after the production forest estate but it is just as important to look after adjoining national parks as well in the same way, as well as private lands. If we do not, we are providing risk to koala habitats everywhere. This is the thing we need to keep in mind when we are talking about koala habitats. Koalas do not necessarily determine boundaries in relation to national parks, private lands or production forests. Therefore we need to think about the way we manage koalas on a broader scale than just focusing specifically on one part of it.

CHAIR: Thank you very much for your evidence.

CALLISTER, Ms Deb, Acting Assistant Secretary, Wildlife Branch, Department of Sustainability, Environment, Water, Population and Communities

DEERING, Dr Michael, Director, Species Listing, Department of Sustainability, Environment, Water, Population and Communities

DRIPPS, Ms Kimberley, Deputy Secretary, Department of Sustainability, Environment, Water, Population and Communities

[15:29]

CHAIR: The committee welcomes the federal department of sustainability and the environment. I note for the record that I indicated informally to my colleagues that if they continued to ask further questions of the witnesses with whom we have just finished I would take my deserved time until such time as it was necessary.

Senator CAMERON: I raise a point of order, Chair. If you would come to meetings on time we would not get into this problem.

CHAIR: Senator Cameron, we went five minutes over with the previous witness to facilitate your asking questions of that witness.

Senator CAMERON: Just turn up on time for once and everyone will be okay.

CHAIR: I thank the department very much for attending today. As departmental officers you are more than aware that we cannot ask you your opinion as to policy but we can ask you as to process relating to policy and facts which might have given rise to particular policy. We have your lengthy and quite informative submission. Do you wish to make an opening statement?

Ms Dripps: I would like to.

CHAIR: Please proceed.

Ms Dripps: Thank you. Clearly the Australian Government is committed to working in partnership with the states and territories to ensure the conservation of the koala across its natural range. The submission made by the department outlines the current main areas of focus for koala conservation: working with the state governments to implement the National Koala Conservation and Management Strategy and the current consideration of the koala for possible listing as a nationally threatened species under the Environment Protection and Biodiversity Conservation Act. As you would be aware, the koala has been assessed for listing as a nationally threatened species on three occasions: in 1996 under the Endangered Species Protection Act, in 2002 and currently. The minister in making his decision must consider the advice of the independent Threatened Species Scientific Committee on whether to list a species as nationally threatened. The department provides research, drafting, logistical and secretariat support to the TSSC. I might leave it there. There is a more lengthy introductory statement but it is largely contained in the materials you have already. If you like, we could table that.

CHAIR: Thank you.

Senator BOB BROWN: Why isn't the koala listed as facing extinction?

Ms Callister: In order for a species to be listed under the EPBC Act there is a process that needs to be gone through. It starts with the nomination of a species. Then it involves consideration by the Threatened Species Scientific Committee and a round of public consultation. The TSSC then provides its advice to the minister for consideration. The minister considers its advice, along with any other advice he or she would like to take on board and the outcomes of those public consultations, then makes a decision on whether the species meets the requirements for listing under the EPBC Act. To date, when it has been considered by various ministers they have not determined that it yet meets the criteria for listing.

Senator BOB BROWN: Is one of the criteria a 10 per cent chance of extinction within the century?

Ms Callister: Not exactly. In the criteria for whether a species should be listed under the EPBC Act a number of different categories are listed, and they are outlined in the regulations to the act. I could point you to where those regulations are.

Senator BOB BROWN: You have provided that for the committee, haven't you?

Ms Callister: Yes. There are a number of categories that they can be listed under—some about decline, some about their distribution, and so on.

Senator BOB BROWN: Is the department's assessment that the chance of extinction of the koala over the coming century is less than 10 per cent?

Ms Callister: The department has not undertaken an assessment.

Senator BOB BROWN: It has not done that assessment?

Ms Callister: No. That assessment is done by the Threatened Species Scientific Committee.

Senator BOB BROWN: Let us go to that. One of the criteria you have provided the committee with is 'where there is a process of population loss that is not understood'. That is a potent criterion for listing. The evidence is abundantly clear that there has been not only a population drop but also a catastrophic population drop in the last decade or two. There is compelling evidence as to what is contributing to that but it may not be fully understood. What is it that impelled the committee, in view of those criteria, to not list the species?

Ms Dripps: Just before we answer that question, I need to put on the record that the minister makes the decision whether to list the species. The Threatened Species Scientific Committee gives advice to the minister.

Senator BOB BROWN: Thank you. And has the Threatened Species Scientific Committee ever advised the minister that the koala should be listed.

Ms Callister: Not that I am aware of. I believe that we provided the most recent advice from the committee to the minister on the koala's listing with our submission. That has been made publicly available. You will see in that that committee recommended that it did not meet the criteria for listing as vulnerable. But they did point out that there were significant challenges for them in reaching that conclusion, largely around some of the problems they had in accessing adequate data to make their determination.

Senator BOB BROWN: Yes, and it says in the listing criteria you have given this committee that where the processes leading to a population loss—which is established, as the committee recognised—are not understood that should lead to listing. It does not say the reverse: that you must understand it before you can give a listing. It says 'where they are not understood'. That in itself is a potent reason for listing.

Ms Callister: I think you are asking me to speculate on some of the committee's thinking and determinations, and all I can do is point you to the conclusions that they outlined in their advice.

Senator BOB BROWN: We heard evidence this morning of 85 or 95 per cent loss of population in central-western Queensland in the last decade, and the figures are way over 50 per cent in the last decade nearly everywhere you look. We have had abundant evidence that loss of habitat, predation by dogs, car strikes and so on, and indeed drought, have all—it is a multi-factorial causation and there is disease within the population as well. So we do understand a lot of the factors. Do you know of any other species of which there has been such abundant evidence of loss of population but there has not been a recommendation for listing?

Ms Callister: Are a large number of species that are listed under the EPBC Act so I would have to take that on notice—

Senator BOB BROWN: Would you, please.

Ms Callister: and look at what data we have. Given that there is a very significant number it would be quite an exercise to do that but I am happy to take it on notice.

Senator BOB BROWN: We had evidence from Queensland experts earlier that the koala is listed as vulnerable under state legislation, yet we have also heard evidence that the most robust population—if we can call any population of koalas that—is in south-east Queensland. Can you tell me why, therefore, the committee found, looking Australia wide, that it could not recommend that the koala be listed as vulnerable to extinction?

Ms Callister: I think you have pointed to some of the pertinent considerations of the committee in your question. The committee has to look at it across its national extent. The koala has quite a broad extent across South Australia, Victoria, New South Wales and Queensland. In order to meet the criteria that you were talking about before, they need to look at it across its whole national extent. The issue with koalas is that the population status varies considerably from state to state, from some populations that are overabundant and being actively managed down to some which, as you correctly point out, are under significant threat and have been recognised by the states as being under significant threat. They have to look at it nationally, so that is part of the challenge for them.

Senator BOB BROWN: Yes, thank you. In the evidence this committee has heard there has been no evidence other than that the population is less than 100,000 remnant. Do you have any evidence that would contradict that assessment?

Ms Callister: I can only go on what information was provided to the committee as outlined in their report. My recollection from the last time I read it is that it posited that there is a range of population figures and that there is no firm figure. But the issue the committee needs to look at is not what the overall number is; it is about trends and about the period over which that happens and whether that has happened over three generations.

Senator BOB BROWN: Do you know of any shred of evidence anywhere in the scientific literature that shows other than a negative trends which amounts over the last three generations, or the last decade, to a catastrophic drop in the population of koalas?

Ms Callister: I am aware that the population status varies across its range. Some of those population declines have actually been actively managed down through things such as translocation. So it is difficult to generalise but I am not a koala expert so I can only point to what I have read in the TSSC's advice, which is available to you as well.

Senator BOB BROWN: Can you give us an example of where a population trend down has been in any way reversed by a translocation.

Ms Callister: I am not sure whether it is necessarily a population decline being reversed by translocation. My understanding is that translocations are more often used where there is overpopulation—in areas such as on Kangaroo Island and, I understand, in places such as the Otways—

Ms Dripps: Snake Island.

Ms Callister: Yes—where they have translocated the koalas to other areas because they have basically been eating themselves out of house and home, with obvious detriment to both the koalas' habitat and the koalas. So I think translocation is more often used to try to address overpopulation than to try to rebuild populations. But again, I am not an expert so I am happy to stand corrected on that.

Senator BOB BROWN: We did have a very longstanding expert earlier in the day who said that he had seen koala translocations that were successful in two offshore islands but knew of no circumstance in which this had been successful in mainland Australia. Can you point to any circumstance in which it has been successful in mainland Australia?

Ms Dripps: Senator, Deb has explained that in her understanding of koala dynamics translocation is used where there are already overabundant koalas, to ensure that they do not subsequently perish or suffer inordinately because they have eaten too much of the trees that are there. There is quite a lot of koala translocation in Victoria. However, it is my belief and I think Deb has already stated that it is hers that that is not done with the intention to reintroduce koalas into areas where they are not.

Senator BOB BROWN: Do you know where that has been successful.

Ms Dripps: I would have to consult with state colleagues and probably take that on notice. I understand that in Victoria and South Australia they have translocated koalas to other places and I believe continue to do so, but I would prefer to take that on notice as it is a state-level matter—

Senator BOB BROWN: If you would. I would be very keen to receive evidence for the committee that showed that a translocation—and I think Dr Dripps is indicating that these are to areas which have extant koala populations—has actually been successful in increasing the koala population in the translocated place. We had a gentleman from Coffs Harbour here earlier talking about evidence that translocated animals will try to go back; they are territorial.

Ms Callister: I understand that you may be having some hearings in Victoria as well. That might be a matter that you would like to take up particularly with the Victorians, as I understand that that is one of the areas where translocation has occurred more often. We are happy to take it on notice and see what we can find but it may also be something you would like to explore with the Victorians.

Senator BOB BROWN: Thank you. One of the pieces of riveting evidence from our last witnesses was that logging operations can actually lead to an enhancement of koala habitat. Do you have any evidence for that.

Ms Callister: I am afraid that is outside my area of expertise. I am not an expert on either forestry or the impacts that it has on koala habitat.

Senator BOB BROWN: Do you, or your department in its full wisdom—and you can take this on notice if you would—know of any case with any threatened species in Australia anywhere in history where habitat trees are removed to the benefit of the species that is threatened?

Ms Callister: I am happy to take that one on notice.

Ms Dripps: In so doing, Senator, there may be examples where changing the age class of a forest increases the supply of food for some species. We will look into that for you.

CHAIR: So that may be a consequence, albeit not the purpose?

Ms Callister: Indeed.

Senator CAMERON: Dr Dripps, you said that the scientific committee does not make the decision about what is classified or listed; the minister makes that decision. But it is not as simple as that, is it? The minister cannot wake up in the morning and say, 'I'm going to list the koala as an endangered species', can he?

Ms Dripps: There is a process of nomination of species for consideration by the Threatened Species Scientific Committee and advice to the minister. I think Deb has the bit of the act that says the things that the minister may consider in making his decision. I might ask her to read that out.

Senator CAMERON: I have it; I will come to that, if you like. Just bear with me. There are six different classifications. One is extinct, so it does not really make much difference; if it is extinct, it is extinct. Then you go to extinct in the wild, critically endangered, endangered, vulnerable, and conservation dependant. Are there definitions of these definitions?

Ms Callister: Yes, there are. The categories are outlined in section 179 of the EPBC Act. That outlines particularly what is in there and gives a bit of elaboration on those categories. Then they are further elaborated on in the regulations to the act, which again give some definitions around terms. But those definitions are somewhat subjective, so the Threatened Species Scientific Committee has prepared for itself some guidance about how it interprets those parts of the act. It has done that so that it can be quite consistent and transparent about how it does it from species to species.

Senator CAMERON: I notice my language has been inconsistent because I am not sure of the definitions. Could the department put together a little summary of what is in the act and pull out for us those definitions in the various parts of the act to save me working through it?

Ms Callister: Certainly.

Senator CAMERON: And could you also provide copies of what the scientific committee is looking at as well?

Ms Callister: Yes.

Senator CAMERON: So it will be a little package of definitional material. Are there any other definitional things we should look at?

Ms Callister: We provided some of that with our submission but if we can perhaps package it so that it is under a heading so you know exactly what you are looking for. It is really those three key things: the sections of the act that point to both how you define them and what the committee and the minister can and cannot take into account in making their decisions, then the relevant regulations and then any guidelines that the TSSC has made publicly available about how it has interpreted the legislation.

Senator CAMERON: For instance section 189 defines how the minister has to consider the advice from the scientific committee.

Ms Callister: Yes.

Senator CAMERON: Because the scientific committee is very important in this process.

Ms Callister: Correct.

Senator CAMERON: The minister cannot wake up and say 'I'm going to make koalas conservation dependent or endangered', can he?

Ms Callister: That is correct.

Senator CAMERON: Pity. The scientific analysis—I am not sure whether you can help on this. The committee has been set up to help the minister make these decisions but, given the overwhelming evidence we have had that the practical reality out there is that koalas seem to be in huge danger—in some areas of extinction—in the short term and extinction in the long term, it seems to me that the scientific committee is more a hindrance than a help. The act creates this blockage of the scientific committee because the scientific committee has to look at very specific reasons. As you have said, it has to look at the national extent. We have had evidence today from Dr Alistair Melzer, who is recognised throughout this country as an expert on koalas. He says that the koalas in the Mumbulla State Forest are really special because they are the last remnants of one part of that species. Why shouldn't we be able to say 'We must protect them now. There are only 52 left. We need to protect

them.'? Why does the scientific committee have to go through the convoluted sort of decision it made and then say 'We think we need to do something but we can't do it.'? What are the weaknesses in the act on this?

Ms Dripps: I would not like to comment on whether the act has strengths or weaknesses. I do not think that that is appropriate for me in this role.

Senator CAMERON: I accept that, Dr Dripps.

Ms Dripps: On why the threatened species committee acts in accordance with the legislation that it operates under, it does that because it is required to act in line with the legislation that it operates under. As members of the committee here would be aware, the EPBC Act has been reviewed recently. The department has certainly been considering advice to give to government on the manner in which the act might be renewed. I think that any views the committee has might be usefully be fed into that process.

Senator BOB BROWN: Maybe where the word 'may' occurs it should be replaced by the word 'must'. That would improve the act considerably.

Ms Dripps: In which section, Senator Brown?

Senator BOB BROWN: Throughout.

Senator CAMERON: How does the department deal with changed scientific evidence like the evidence we have heard here today that the Mumbulla koalas are special and they could be extinct soon. What happens in the department when you get this type of information?

Ms Dripps: There is a regular process of reviewing what is listed under the act in various categories. Over the course of time the committee examines the scientific evidence about change in particular species and may recommend a change in classification, or in some circumstances even a de-listing of the species.

Senator CAMERON: I am not worried about what the committee does; I am asking if the department as a result of today's hearing realises that koalas in the Mumbulla are special, that there are 52 left and that they are endangered. Do you do anything or do you just wait until the scientific committee meets again in three years to look at this?

Ms Dripps: The committee meets more often than every three years. I wonder if you could you clarify the question a little. Are you asking about the department's knowledge of and activities to protect the koalas in that area specifically, or more generally about—

Senator CAMERON: Let me just take it step by step. Was the department aware that the koalas in Mumbulla forest were the last remnants of a subspecies of the koala?

Ms Dripps: I was not personally aware of that but I would like to take on notice whether the department was aware of it, because I do not know everything the department knows.

Senator CAMERON: And was the department aware that there are only 52 koalas left?

Ms Dripps: Again, I would give the same answer.

Senator CAMERON: Now you know that there has been evidence led that there are 52 koalas left in Mumbulla forest, that they are genetically quite unique and that they are in danger of extinction, what will the department do about that, if anything.

Ms Dripps: The first thing we would do is get the evidence you have referred to, which I am sure will be in the transcript of the hearing imminently. Then we would look at whether programs exist in that area already that are working towards addressing that particular problem. Then we would take it from there.

Senator CAMERON: 'Take it from there' is a pretty wide scope. Would you then say to the scientific committee—is there any procedure within the department that says 'If you currently understand that there is a problem, we will advise the scientific committee of this problem'? If not, why not?

Ms Callister: Again, it depends on the issue and at what the stage the committee is in its deliberations. In this particular instance with the koala, where the minister has not yet made his decision about whether to list the koala under the EPBC Act, all the information that is coming forward to your inquiry is something the minister could take into account in making his decision. So the department will be looking quite carefully at the outcomes of the inquiry. Then we will look at whether we want to provide advice to both the minister and the committee about any potential further deliberations they might have around the population status of the koala.

Senator BOB BROWN: Isn't it true that the regional forest agreement, which permits logging, which is the biggest threat to those 52 koalas, can do nothing?

Ms Dripps: I think it is important to put on the record that the Regional Forest Agreements Act is administered by the Department of Agriculture, Forestry and Fisheries, not this department. So our ability to answer detailed technical questions about what the act can or cannot do is quite limited.

Senator BOB BROWN: The regional forest agreement puts the safety of those koalas outside your administration of the EPBC?

Ms Dripps: That is correct.

Senator BOB BROWN: Thank you.

Senator CAMERON: Even if they are listed?

Ms Dripps: If they were listed, that information and conservation status would be fed into future regional forest agreement processes.

Senator CAMERON: So the forestry authorities can say 'We don't care—the 52 are gone'; is that correct?

Ms Dripps: I am not sure that that is exactly correct. I would like to take that question on notice.

Senator CAMERON: There are lots of heads nodding up and down behind you, so some people must have looked.

CHAIR: They are not providing evidence at the moment, Senator Cameron.

Senator CAMERON: We might need to get the agriculture department here. What department is it?

Ms Dripps: Yes, agriculture.

Senator CAMERON: We might have to get them here.

Senator BOB BROWN: That would be interesting; it would be good.

Senator CAMERON: The relationship between the two government departments is complex. Then the relationship between the states creates another complexity. Is there any way we can get a mud map about the interrelationship between the legislative protection for koalas at the federal level and at the level of individual states?

Ms Callister: We would be happy to do our best to see what we can do and liaise with our state colleagues to try to get that. There is information included in the Threatened Species Scientific Committee's advice which outlines the different threatened status of koalas. As you would see, it varies from state to state and also within some states where some of the sub-populations have different levels of protection than other sub-populations.

Senator CAMERON: You may have to take this on notice. If there was a problem with rail gauge throughout Australia, it would be a matter for COAG. If there is a problem for the koala's survival we are told that you have to deal with this nationally. You cannot deal with it in the Mumbulla forest; you have to deal with it nationally. Is there anything to stop this being dealt with by COAG in terms of harmonising the legislation to protect koalas throughout the country?

Ms Dripps: You would usually expect that such a matter would be handled by the relevant ministerial council, because the environment ministers in the different jurisdictions would have the obligation to look after the koala in their jurisdictions. The EPBC Act acts as an umbrella over that, and there has been work through that forum in the development of the national koala strategy over the last couple of years. Deb, when was that finalised?

Ms Callister: It was finalised in 2009 and there was a report provided to the natural resources management ministerial council in about April last year, I think, and an intention to report annually to them.

Senator CAMERON: That was the ministerial council, not COAG?

Ms Dripps: Yes.

Senator CAMERON: And did the ministerial council look at the legislative for koalas across the country, or did it just say 'Let's develop a plan'?

Ms Dripps: All of the states have threatened species legislation of some kind or another, and all of the states have listing processes. The work that has been flagged in Dr Hawke's review of the EPBC Act is suggesting a single national list, and there has been quite a bit of work done in progressing that already, as there had been before Dr Hawke formally made that recommendation. So there is an intention.

Senator CAMERON: There is an intention. Okay, thanks.

Senator BOB BROWN: Can you tell the committee of any single act by the federal government in the last 10 years intended to protect or enhance the survival of koalas that has been carried into effect?

Ms Callister: Yes, I can. There have been a number of funding proposals that have been funded dealing with on-ground management of koalas through some of our programs including Caring for our Country and its predecessor the Natural Heritage Trust. There has been funding provided under the national reserve system has gone to some areas which have included koala habitat. We are also funding a project at the moment in collaboration with the New South Wales government and, I think, the University of Queensland which is aimed at

testing what are some of the most effective management interventions for koalas. That project is due to finish at the end of this year. So, yes, there have been quite a number of actions by the government which are trying to improve the health and status of koalas.

Senator BOB BROWN: Could you provide those actions to the committee and the amount of money set aside?

Ms Callister: We will certainly do our best.

Senator BOB BROWN: Thank you. The United States has listed the koala as threatened. Can you tell us why they have done that but Australia has not?

Ms Callister: I am not fully familiar with the criteria that the United States government uses under its endangered species act to make determinations about whether species are threatened. Without knowing that and being able to compare whether their criteria as the same as or different from ours, I would not be able to answer that question.

Senator BOB BROWN: Is it possible that your department could find out and let the committee know about that.

Ms Callister: Yes, certainly.

Senator BOB BROWN: Thank you.

CHAIR: I thank the department very much. We look forward in particular to the further information that you are able to provide to the committee. And thank you everybody, including those who have simply watched.

Committee adjourned at 16:04